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THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment and Administration of Hospitals, Sanatoriums and Allied Institutions, and to Their Medical, Surgical and Nursing Services

Vol. XXXI *August 1928* No. 2

Fifteen Years of Scientific Progress in Hospital Work

By WINFORD H. SMITH, M.D.

Director, Johns Hopkins Hospital, Baltimore, Md.

THE subject of this brief paper was assigned, not chosen. It is so broad that to attempt to go into detail in any brief presentation would be futile. It is intended, therefore, merely to touch upon some of the outstanding developments in the various phases of hospital work.

Fifteen years ago the literature on hospital administration was sadly lacking in all except its clinical phases, and was confined largely to European writers, and to papers read before the American Hospital Association, then known as the Hospital Superintendents' Association. The clinical phases were dealt with by the clinical writers in clinical journals.

It is scarcely more than fifteen years ago that a keen appreciation was developed of the fact that the operation of a hospital was a task that called for careful study and the application of the best principles of scientific management and clinical practice. During these fifteen years great progress has been made, not only along clinical lines, but in the development of the physical plant and its operation and management.

One has only to examine the programs of the hospital association and of the clinical association meetings of fifteen years ago and to compare them with recent programs, to realize that a great development in the scope of our knowledge and trend of our thought has taken place. The writings of that period both on administrative and clinical subjects, compared with those of the present day, show an even greater contrast.

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An Educational Influence

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istrators, clinicians and architects has resulted in better planned and better built hospitals no one could deny. More attention has been given to planning, to the end that space may be economically used, that departments shall bear the proper relation each to the other, that the utilities shall be adequate and so located as to conserve effort, to avoid steps and to increase efficiency of service.

Careful studies have been made of all details. For example, tests have been made to determine the best types of floors to be used for various purposes, both with regard to economy of maintenance and the comfort of workers and patients. The treatment of walls and ceilings in such a manner as to provide a pleasing appearance, to reduce noise and to involve a minimum cost of upkeep has received careful attention. In fact, all details of interior construction have been carefully worked out in order that the factors of cleaning, maintenance and convenience might all receive due consideration.

Mental Comfort of Patients Considered

Planning has taken into consideration not only the greater physical comfort of patients and workers but also their mental comfort. Compare the cold, unattractive appearance of walls and the white enameled furniture of a few years ago with the attractive, soft, color schemes, the tasteful decorations and the furniture of today, and the contrast is striking. The recognition of the fact that to transfer a sick person from a comfortable home to an atmosphere as cold and forbidding as that of the hospital of a few years ago, was scarcely conducive to mental comfort and satisfaction, has contributed largely to the usefulness of the hospital. As evidence that thought has been given to making the patient happier and more contented while confined in the hospital, such features as the following may be mentioned:

Carefully selected women of refinement and pleasing personality have been installed as hostesses at the entrances of hospitals, to the end that the patients and their relatives may receive more personal attention and a happier impression of the hospital, upon admission.

The installation of radio, the provision of circulating libraries, the provision of telephones in private rooms and the giving of more attention to the religious comfort of the patient are evidences that it has been considered desirable to humanize the hospital, not only as a measure of satisfaction to the patient but because it has been recognized that the patient's psychological reaction is important, in connection with other therapeutic procedures.

The development of social service during the past fifteen years has been remarkable. The realization that it is important to know something about the home life, the working conditions, the provision for the patient's family and the conditions to which the patient must return upon leaving the hospital, and the appreciation of the fact that it is necessary to follow up the patients in order that treatment may be made effective, have vastly increased the value of social service both as a therapeutic agency and as a humanizing force in hospital work.

In keeping with the effort to minimize labor by efficient planning, great improvements have been made in the types of furniture and in the development of labor-saving machinery.

The development of improved types of beds, the introduction of monel metal, rubber and linoleum tops for tables for various purposes, the use of monel metal utensils, rustless steel for instruments and other purposes, have all been of importance in minimizing labor and reducing maintenance cost.

Likewise the development of individual refrigeration units, paint spraying machines, mechanical dishwashers, mixing machines for the bakery and kitchen, machines for extracting fruit juices and for other kitchen activities, machines for scrubbing and polishing floors, vacuum cleaners, highly efficient laundry machines for washing, ironing and drying, has been in keeping with the development of machinery for other commercial enterprises, and has done much to effect saving of labor and to increase the efficiency of the working personnel.

Another important development has been the increasing realization on the part of boards of trustees that hospitals should be administered only by trained administrators. This factor alone is responsible in no small measure for the improved methods of hospital administration.

Possibly even greater changes have taken place in the methods of diagnosis and treatment of patients.

Clinical Standards Raised

Doubtless all will agree that the organization of the clinical resources of the hospital is better than it was fifteen years ago. It is no longer sufficient, in a well organized hospital, for a visiting physician or surgeon to look in occasionally. The present standard requires that the physician, surgeon or specialist shall give much more of his time to the study of the patients under his care and to supervising the work of his assistants. The technical procedures have become not only much more numerous but more time-consuming and the methods more precise. The size of the resident

staff has increased considerably because of these new standards of hospital service. The entire clinical program is so much more complicated and exact that it has affected to a marked degree the whole problem of administration and, what is of even greater importance, the treatment of the patient is much more thorough and productive of much better results, which after all, is the main purpose of the hospital.

Laboratory Procedures Elaborated

Whereas only a few years ago the laboratories required were few and the procedures comparatively simple, more laboratories are now needed and the procedures are highly specialized and technical. The present tendency is to organize services or clinics so as to include not only physicians and surgeons with general training and interests, but to include those having special interest in and training for clinical observation and laboratory investigation. Specialists in many fields are likewise included.

Such rapid changes are never brought about without some sacrifice or some errors, and one criticism often made, probably with some justice, is that the tendency is toward too much specialization. One authority expressed himself thus: "Twenty years ago, everyone expecting to go into medicine attempted to gain a fair knowledge of pathology; now many of the men approach internal medicine along other lines, especially chemical and physical, with the result that they do not get a fair conception of the changes in the body, and attempt to treat disease in great part by information obtained from chemical and metabolic study without ever obtaining a clear idea as to the exact nature of the physiological changes occurring in the organs involved. This, I think, is a step backward, as I do not believe that anyone can be a first-rate doctor without having constantly in mind a picture of the organic changes taking place in the interior of his patient, which can be gained only by a considerable experience with pathology."

Nevertheless great advances have been made in scientific knowledge, in methods of diagnosis and treatment and, it should be added, in the methods and value of prophylaxis. To illustrate these points the following may be mentioned:

The establishment of laboratories for the study of blood chemistry, both as an aid to diagnosis and as an indication of the treatment required. Such a study may include the determination of the nitrogenous, inorganic, carbohydrate, gaseous and pigmentary constituents and hydrogen ion concentration.

Then there are the laboratories for the study of the chemistry of respiration (basal metabolism); for electrocardiography; for the biological methods of diagnosis such as the Schick test, Dick test, Schultze-Carleton test and protein sensitization test; for functional tests of the liver, kidney and pancreas; for the diagnosis of syphilis and infectious diseases, such as tularemia and brucella infection and the laboratories for the development of sera of various types as therapeutic agents.

Such extensive laboratory methods were scarcely thought of fifteen years ago.

Furthermore, as a result of laboratory investigation new and effective therapeutic measures have been developed such as:

Insulin, parathormone, ephedrin, iodin in hyperthyroidism, tryparsamid for central nervous system syphilis, malaria inoculata for paresis.

Biological products such as new and improved scarlet fever antitoxin, erysipelas and measles antiserum, botulism antitoxin, antivenims and improved antimeningococcus serum.

Heart remedies such as cardiozol and quinidin.

Progress in the treatment of allergy or hay fever, etc.

Advances in the knowledge of the action of drugs and their standardization, notably digitalis.

Dietary Department Is Modern Feature

These are striking examples of scientific progress, and still others may be mentioned, such as:

The recognition that diet is an important therapeutic measure, as in diabetes, sprue, pellagra, pernicious anemia. This has resulted in the development and use of the trained dietitian to such an extent that scarcely any hospital could be considered well organized without its dietary department under a trained dietitian.

The use of the oxygen tent in the treatment of pneumonia.

The discovery of a cure for rickets.

The increasing use of heliotherapy for the treatment of various forms of tuberculosis, anemia and rickets.

The development of occupational therapy for various types of patients, particularly those suffering from nervous and mental disorders.

The rational use of physiotherapy and diathermy.

The development of prenatal and postnatal care of mothers and babies.

The prophylactic treatment of syphilis in pregnant women, which has resulted in eliminating almost entirely the occurrence of congenital syphilis in women so treated.

The employment of x-ray in the study of obstetrical patients with contracted pelves.

The application of extensive chemical and meta-

bolic study to women suffering from the toxemias of pregnancy.

The development of electrical instruments.

The advances in operative procedures and improvements of surgical technique are too numerous to mention.

All of these developments have been in the line of scientific progress, and doubtless many more could be mentioned. Because of these advances hospitals are more efficient, more comfortable and at the same time more complicated. Better organization and better coordination of activities are required, and to this end mutual understanding, appreciation and cooperation between the administrative and clinical departments of the hospital are essential.

Mention should be made of at least two other phases of hospital work.

The out-patient department, which for many years was looked upon merely as an appendage and received scant attention, is coming into its own. It is now recognized that an efficient, well organized out-patient service is as important in the whole public health scheme as the in-patient service, usually called the hospital service.

How Can We Improve Nursing Service

The nursing problem is still a problem. Nursing has improved; it had to improve to keep pace with the demands of modern medicine. No one would deny that the trained nurse is today a valuable therapeutic aid without whom modern medical and surgical practice would be much less effective. In that respect the development of nursing may be listed as an example of scientific progress. It is still a mooted question, however, as to what is the best system of providing nursing service in the hospital and as to the best system of nursing education. There are those who advocate higher standards of education and those who advocate lower standards, and some who favor a complete change in the scheme of education, giving much less time to basic training and more time to special training. Whatever the answer, it must not be forgotten that hospitals are established primarily to furnish the best of medical, surgical and nursing care to those members of the great public who are ill, and in general hospitals probably will have to meet the needs of the public as best they can.

In spite of the fact that the hospital, generally speaking, is not properly supported and is engaged constantly in a struggle to make its income balance its expenditures, nevertheless it should be a matter of pride to all hospital workers, that the modern American hospital is an institution greatly superior to the hospital of fifteen years ago.

Giving the Young Doctor Access to the Hospitals

An article by Michael M. Davis, entitled "The Doctor's Kit of Tools," which appeared in a recent issue of *Survey*, presents a detailed and interesting account of some of the problems confronted by the present day doctors. The article includes also a discussion of the distribution of medical and hospital service.

Unless a doctor is fortunate enough to receive an assignment to a hospital staff, there are several problems to which he must give considerable attention. The following quotations from the above mentioned article deal directly with these problems:

"It must always be true that an outstanding factor in good medical care is the skill and personality of the physician. But to make his skill and personality effective these days, the physician must have tools with which to work, and these tools are expensive.

"A generation ago the physician of even a small community could make a respectable living annually in the treatment of a few diseases. Now he must be equipped with at least the essentials of a laboratory, must cover a large territory in an automobile, must have the aid of a nurse in severe illness, and must refer a large and possibly the most valuable part of his business to a specialist who is better equipped than he, or to a hospital where better facilities are at hand. . . . Is it any wonder, therefore, that a young doctor, trained to use the modern tools of his profession, will not usually go where these cannot be found?

"Without equipment in office, hospital, clinic and laboratory, many of the resources of modern medicine are unavailable. Without trained personnel (nurses, dietitians, social workers, physiotherapists, and laboratory technicians) the doctor can have neither the time nor usually the skill to do his work. Without the cooperative service of other physicians, he will fail to do justice to those patients who need more of the science and art of medicine than can be acquired by one man.

"In these facts lies one of the chief reasons why the hospital and clinic have moved so far into the foreground in recent years, not only as places where patients are served, but as the organizations through which physicians learn to use their tools, keep them sharp and devise new ones. The fact that at least 80 per cent of the bedside care of the sick is given in the home does not displace the hospital from this significant position."

How Much Is Spent for Medical Education?

It is believed that the average doctor spends about $10,000 for his medical education. When he finishes his schooling he has to establish his practice, buy office equipment, and has many other expenses to meet. Under these conditions it is impossible for him to obtain all the equipment that he is certain to need at one time or another. Assignments to hospital staffs are hard to obtain, due to the fact that the hospitals find it more efficient to operate with a small staff of steady men, and are little inclined to make many changes or additions. Statistics show that nearly half of the physicians in the United States are working independently of any hospital connections, and this means that their patients are not getting the careful consideration and service that they deserve. It is evident, therefore, that something must be done to give these men access to the hospitals, or at least an opportunity to benefit through the educational possibilities offered in such institutions.

How the A. H. A. Has Functioned During the Past Fifteen Years

By ASA S. BACON
Superintendent, Presbyterian Hospital, Chicago

BACK of meetings, literature, memberships, expenditures and all else, the basic aims and work of the American Hospital Association have not greatly changed in the past fifteen years, but have strengthened and gathered momentum.

The successive stages through which the association has passed have brought development and progress sympathetic to the needs of the times and the growth of the hospitals of the country. As in all fields of human endeavor, crystallized public opinion has been the compelling factor in the formulation of new policies and the mapping out of new avenues of progress. A gradual healthy growth has characterized the existence of the association, and its members and well-wishers may rightly be proud of its achievements.

Sectional Meetings Started

Going back fifteen years in the association's affairs takes us to the fifteenth annual conference, which was held in Boston, August, 1913, with Dr. Frederick A. Washburn as president and with a total of 1006 active members. Up to that time all members, whether they represented large or small hospitals, attended the same meetings, but at the 1913 convention the plan of holding sectional meetings was begun and we had a section for large hospitals and a section for small hospitals, convening at the same time.

The scope of membership was enlarged to include members of staffs and superintendents of nurses. Occupational therapy was first brought to the attention of the association at that time. We had Dr. Andrew R. Warner present at one of the sessions, when he read a paper on social service.

The treasurer's report showed disbursements of $2940.12 and a balance in the treasury of $2117.97. It is interesting to note that the cash receipts showed an amount of $529.24 for commercial exhibits, this being the first year we received money from exhibitors.

The sixteenth annual conference was held in St. Paul, Minn., August, 1914, the delegates being entertained in Chicago and transported to St. Paul by special train. It was then the consensus of opinion that the association should do more than hold an annual meeting, as to most of the members the American Hospital Association was but a four days' conference once a year. The institution of a permanent secretary, so that members could have expert advice at all times, was discussed but was not proceeded with at that time. The members also discussed the issuing of an official organ and the standardization of supplies.

A committee was elected and authorized to cooperate with the nursing association of the American Medical Association in the matter of classifying and grading nurses.

The seventeenth conference was held in San Francisco, June, 1915, at the Exposition Grounds, the delegates again being entertained in Chicago and transported from that city with a guide, by special train, stopping at important points on the way. The most important action taken at this conference was the adoption of a resolution for the association to engage a permanent secretary. One of the interesting features was a list of fifty-one exhibits of noncommercial nature, most of which were prepared by hospitals. This convention on the coast gave an impetus to hospitals of the West to join the association.

Provisions Made for Life Members

The eighteenth conference, marking a new era in the association, was held at Philadelphia, September, 1916. At that convention a standing committee on out-patient work was recommended, and a considerable revision was made in the constitution and by-laws of the association. One of the important clauses of the new constitution was the institution of life members, a privilege that was quickly taken advantage of by several members.

The outstanding event of the conference was the creation of a board of trustees, for whom the permanent secretary of the association served as secretary. Dr. W. H. Walsh had been chosen as secretary during the year and suitable headquarters were established in Philadelphia. The

first trustees elected were Richard P. Borden, Dr. Winford H. Smith and Mary L. Keith, R.N. Mr. Borden has served as trustee continuously up to the present time.

The display of hospital supplies and equipment exhibited at Philadelphia was said to be the most comprehensive ever assembled in the history of the association, and it was the opinion of the members that from that time on the commercial exhibit was destined to be one of the great educational features of the conferences of the future.

An amendment was passed authorizing the establishment of geographical sections. The first official activity of the association relative to the standardization program of the American College of Surgeons was discussed, and a resolution was passed requesting the president to cooperate with the college in its program.

Small and large hospitals featured separate round tables, and it was at one of the round tables that radical changes in the construction of hospitals were recommended and new ideas, such as central service, small private rooms with service compartments, and the building of hospitals in the air rather than spreading them over so much territory, were first brought forward.

Association Functions During War

In June, 1917, the country became involved in the World War, and while a desire was expressed for the postponement of the convention, and many members feared they would not be able to attend, it became evident to the trustees that to postpone or abandon the convention would be a blunder, and that the incidence of war only emphasized the necessity for an assemblage of hospital people. Therefore the nineteenth annual conference was held at Cleveland, in 1917, when the first reports of the trustees and of the executive secretary were given. These reports justified the wisdom of the association in appointing the board, and showed that in spite of the country being at war the board had done a great deal of constructive work for the association, making it a powerful factor in assisting the Government. The activities of the association during the year 1917-18 related mainly to war committees, as the minutes of the twentieth annual conference show. However, one important change was made in the constitution, namely, the inclusion of a clause authorizing the admission of institutional members, and the secretary reported ninety-eight institutional members for the year.

At the twentieth annual conference resolutions of loyalty to the President of the United States were adopted by rising vote. The report of the war service committee was given by Richard P. Borden, and resolutions expressing appreciation to the war department for its cooperation and association with our committees were adopted. Resolutions endorsing the Lewis-Baker bill for providing for nurses' rank were unanimously adopted, also those pertaining to the organization of civil physicians for military service, the affiliation of an army training school for nurses, the use of existing hospital facilities, nurses in captivity and many others. Food conservation, food waste in hospitals and the management of the dietary department of hospitals figured prominently on the program.

As Dr. Walsh, the executive secretary, had enlisted in war work, Howell Wright took up the work in June, 1918, and carried it on until Dr. A. R. Warner was elected in October, 1919. Dr. Winford H. Smith also had his entire time taken up with war work so he resigned as trustee. Dr. Robert J. Wilson was elected in his place.

At the Cincinnati convention in September, 1919, the twenty-first, Dr. Louis H. Burlingham, our present president-elect, was elected as trustee for two years, and the Rev. Maurice F. Griffin was also elected as trustee. Father Griffin is still a trustee, having served continuously since his first election.

The convention was well attended and some important subjects were discussed, such as "Safeguarding the Hospital Milk," "A Course in Hospital Administration" and "Hospital Construction," and two active round table sessions were held. One of the features of this convention was the entertainment for the members at the Cincinnati General Hospital.

A report was given by Dr. S. S. Goldwater on the policy and future program of the American Conference on Hospital Service, and the trustees adopted a resolution that the president of the American Hospital Association appoint two delegates to represent the association in the work of the American Conference on Hospitals.

Library and Service Bureau Organized

At the Montreal convention in 1920, there were presented definite plans and policies for the Hospital Library and Service Bureau, organized by the American Conference on Hospital Service, and it was voted by the association that they appropriate $1000 towards the maintenance of the library for the year. It was that year also that the American Hospital Association was incorporated in the State of Illinois.

The twenty-third annual conference was held at West Baden, Ind. The report of the committee on service bureau and dispensary and community relations and the report of the committee making

a survey on hospital social work were presented. Other reports, including that of the trustees and the executive secretary, gave evidence of marked progress in the affairs of the association. Quarterly bulletins, which seemed to meet with general approval and were helpful to the members of the association, were sent out that year and established a definite policy.

A committee had been appointed and made its report on the question of hospital flooring, which was interesting and helpful to the members. The trustees recommended, after consulting with a representative from the office of the U. S. surgeon general, that the general hospitals establish separate wards for the care of tuberculous patients.

Hotel Conventions Abandoned

The twenty-fourth annual convention, held at Atlantic City, N. J., September, 1922, indicated that the American Hospital Association had progressed to such an extent that hotel conventions no longer were possible. Because of the popularity and steady growth of the exposition of hospital equipment and supplies, the space required for this department in 1922 made it necessary for the association to lease the million-dollar pier. The registration showed hospital executives from thirty-eight states, Canada and the District of Columbia. The first formal meeting of the section for trustees was held at that time. For the first time in the history of the association the president-elect was nominated from the floor, such action being authorized by the trustees during the year.

The membership committee called attention to the associate institutional membership which had been taken advantage of by seven eligible organizations, including the National Hospital Day Committee, Department of Health of New Zealand, Pennsylvania Department of Public Welfare, Cornell University Medical College, Illinois Society of Occupational Therapists, and only one organization of a hospital—the Woman's Auxiliary of the Presbyterian Hospital, Chicago.

The twenty-fifth conference, the silver jubilee year, held at Milwaukee, Wis., in October, 1923, marked another epoch in the history of the association, as was shown by the twenty-five years' history, together with milestones, given by the silver jubilee president. This showed that the first convention of the association held four sessions in two days while the Jubilee convention held some eighteen sessions in four days. While at the first convention no reference was made to hospital equipment, at the twenty-fifth more than $100,000 was expended by manufacturers and distributors of the hospital field in order to show the association their equipment and supplies, and in addition there were some twenty educational booths. One more thing which the twenty-fifth conference did, was to bring the association into greater national prominence.

During the increased activity of the association the annual budget amounted to about $50,000. In addition to other important activities, committees on training school budgets, interns, building codes, canned fruits and vegetables and standardization of furnishings, supplies and equipment, were appointed. A committee also worked on the question of insignia for the association.

The twenty-sixth conference was held in Buffalo, N. Y., in October, 1924, and after the presentation of a report on the study of various systems of medical nomenclature, it was voted to make the "International" the standard nomenclature for use in hospital records. The American Medical Association and the American College of Surgeons also endorsed this nomenclature as the standard.

Upon the invitation of Herbert Hoover the trustees appointed a representative of the American Hospital Association to serve on the advisory board of the United States Department of Commerce. They also established the honorary service roll of hospital trustees for those with twenty-five years or longer in active service.

On May 13 of that year the association took over the National Hospital Day movement.

The Buffalo convention was noted for its large number of committee reports on various subjects.

On the death of Dr. A. R. Warner, Dr. W. H. Walsh, who gave up his duties as secretary of the association to enter the World War in 1918, was selected to take Dr. Warner's place as secretary.

Association Aids in Nursing Study

The National League of Nursing Education, together with several other organizations, had signified its intention of conducting a study on the grading of schools for nursing and invited the association to participate in that study. Dr. S. S. Goldwater was selected by the trustees, with the secretary as alternate, to represent the association.

The Louisville, Ky., convention in 1925 was notable because of the resolution authorizing the trustees to purchase as a new home for the association the property at 18-22 East Division Street, Chicago, at a cost of $125,000.

Another important step was the establishment of two permanent funds—"Donors" and "Benefactors." A change in the constitution and by-laws appears as follows: "Contributors to the permanent fund of the American Hospital Asso-

ciation of sums of not less than $100 shall be known as "Donors." Contributors to the permanent fund of $500 or more shall be known as "Benefactors."

An amendment was passed to allow the nominating committee of five members to serve for five years, and the constitution and by-laws were changed to include this amendment.

A committee on a permanent exhibit in the Smithsonian Institute was appointed. One of the important reports made at that convention was the report of the committee on "The Training of Hospital Executives," which comprised forty-four pages of the Annual Proceedings, covering all the fundamental principles in the training of hospital executives.

Move Made to New Home

In July, 1926, the association moved to its new home.

The association was represented at the Pan American Red Cross Congress held in Washington, D. C., as consultant in regard to hospital matters.

The twenty-eighth convention was held at Atlantic City, N. J., in September, 1926, and at that convention there were eight sectional meetings, and twenty-two committee reports covering practically all phases of hospital work. At the trustee section meeting the question of hospital insurance was thoroughly discussed, and ended in a resolution requesting the trustees to appoint a special committee for the purpose of taking necessary steps to secure a reduction of fire insurance premium rates for hospitals.

The convention received a suggestion that an international conference be held, and after careful consideration a committee was appointed and held its first meeting in September, 1927, in Paris, France.

The membership committee reported an increase in memberships for the year, and the treasurer's report showed the association to be in good financial condition.

The twenty-ninth convention was held at Minneapolis, Minn., in October, 1927. This convention was noted for its educational and technical exhibits, which surpassed those of other years, because of the close coordination of our trustees with the Hospital Exhibitors Association. An arrangement was made with the American Conference on Hospital Service to house its library in the ample quarters afforded in the association's new home. This arrangement will be of value to both organizations because of the valuable information, such as transactions, committee reports and similar material that will be available.

The membership committee reported a substantial increase in institutional, personal and life members.

Mr. Borden reported for the committee that the exhibition at the Smithsonian Institute had had ninety-six photographs enlarged and colored. It is hoped that this exhibition will inform the public as to the value and extent of hospital service.

One of the important contributions by the association to committee work was the committee on the international convention, to be held in 1929.

The year 1928 finds the association active in all the affairs of hospitals. It is receiving the hearty cooperation of the American Medical Association, the American College of Surgeons, the U. S. Public Health Service, the U. S. Army and Navy Departments, the nursing organizations, in fact all the organizations interested in the health of the people. The budget for the year is $78,000. The indebtedness on the association's home has been reduced to $95,000, and another $10,000 worth of bonds on the building is being called in for July 1. New memberships are coming in steadily and the finances of the association are in a healthy condition. The outlook for the San Francisco convention is good, practically all the exhibit space having been sold and a large delegation assured.

The American Hospital Association has definite functions to perform. Through its influence and organization it endeavors to establish uniform national standards for hospitals. Its main function is educational. It coordinates hospital activities, develops standards—professional, educational, business, legal and legislative—unifying and consolidating hospital interests throughout the country.

Care of Fire Pumps

Fire appliances in hospitals should be kept under constant supervision to insure their working at the proper time. In the case of fire pumps, for instance, it should be ascertained by tests that the pumps are in condition for immediate service. Every pump should be started at least once a week, and water discharged through relief valve or other outlet. In the case of steam pumps, connections and traps should be kept in perfect order, and ample steam should be maintained at all times. In the case of electric pumps all wiring and connections should be thoroughly examined and tested.

Special attention should be given to the heating of pump rooms. The temperature must not be allowed to fall to a point at which there will be danger of freezing. The ends of suction pipes must be kept clear of leaves or other refuse matter which might clog the holes in the strainers. The capacity of a pump may be greatly reduced by such a condition. Suction wells should be cleaned and intake pipes to the wells examined. There should be a good supply of lubricating oil always on hand.

Predictions of Fifteen Years Ago Reviewed

By FREDERIC A. WASHBURN, M.D.
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IN THE year 1913 THE MODERN HOSPITAL was first issued. The writer was at that time president of the American Hospital Association. The association met in Boston in August of that year, and in conformity with the custom then and now existing the president made an address which was printed in the October, 1913, number of this magazine. It has been suggested that the then president review the remarks that he made at that time in the light of subsequent events and the hospital conditions that are prevalent today.

Section Work Begins

It is noted that in 1913 the American Hospital Association first tried the experiment of section work which has now, of course, become an established method of handling the conventions of the association. It would be impossible today to conduct business in any other way.

Attention was invited to the recommendation of Dr. H. B. Howard, president of the association in 1910, of a system of inspection of hospitals. This recommendation was emphasized and again made. Officers of the association and interested members discussed this matter for several succeeding years. It was finally dropped by the association when the American College of Surgeons undertook to inspect hospitals and appoint a paid officer for that purpose. The valuable results obtained by the college are familiar to all in the hospital world.

Good Organization Brings Efficiency

The then president came to the subject upon which he wished to lay special stress, namely, good organization as the prime requisite for medical and surgical efficiency. He emphasized the importance of paid chiefs on medical and surgical services, with continuous duty, and that the great professional departments should each have a single head with a service uninterrupted except for the necessary vacations. In 1913 few hospitals were so organized. The Johns Hopkins Hospital, Baltimore, Md., had taken the initiative in this country. The Peter Bent Brigham Hospital, Boston, opened in that year, was following in its steps; the home hospital of the president was just taking similar action. The president was merely pointing out the tendency of the times. Look about you now and see how universal this custom has become.

Staff Committee Urged

The desirability of an executive committee of the staff, of which the superintendent of the hospital is a member and secretary, was urged. It was pointed out that the jealousy which often exists between the superintendent and the staff was best overcome by conference in such a committee; that matters properly pertaining to the staff should there be discussed and acted upon, nominations should there be made and sent to the trustees. The superintendent, as secretary of this committee of heads of staff departments, or, if departments are too numerous, representatives of these heads, becomes the agent of this committee in carrying out its behests where it properly has supervision, and in transmitting to the board of trustees its recommendations. It was pointed out further that the superintendent of the hospital should be present at meetings of the board of trustees where, by his presence, he is able to clear up many points not entirely clear to the members of his board, and to turn their thoughts toward problems which need their thoughtful consideration.

Not only was the necessity of chiefs of professional services with adequate salaries dwelt upon, but it was also pointed out how important it is for the hospital to continue on its staff physicians in private practice who must earn their own living and for whom the hospital is necessarily of secondary interest. The contact with the community that these men give the hospital is of the greatest importance today. Their contact with private practice brings to the hospital something which is essential for its good.

A protest was made against the conception of the duty of the hospital administrator which is not broad enough to charge him with the over-

sight of all the functions of the hospital, including those suggested above. I think that the history of the last fifteen years has shown that the president was right in this tendency to which he then called attention. The best administered hospitals today are those directed by medical superintendents who have a broad conception of their duties and see to it that all departments, professional and other, are conducted in a way which promotes the best interests of the hospital.

The remainder of the address was devoted to the small general hospital. A word was spoken against the tendency of members of the staff in these hospitals to attempt surgery for which they have no adequate training, and a word against the low standards, professional and even moral, in some of the small hospitals. Perhaps the most important thing which was said about small hospitals was a protest against their being started without a survey of the community showing the need for them and without adequate provision for their support. It is believed there has been a vast improvement along these lines in the small hospitals but there is still room for further advance.

St. Barnabas Nurses Find Rest at Rustic Retreat

Rest, change, quiet, the out-of-doors are the boons for the tired nurse to be found at Justamerelane, the week-end retreat for the nurses of St. Barnabas Hospital, Minneapolis, Minn. Justamerelane is a retreat in every sense of the word, an hour's ride from the heart of Minneapolis, entirely hidden by overhanging branches from the road 200 feet away.

The nurses of St. Barnabas owe this bit of relaxation in their busy lives to their superintendent, Harriet S. Harty, who bought the retreat many years ago, says the *Trained Nurse and Hospital Review*. The cottage has but three rooms and a spacious porch at front and rear, but to it multitudes have come, and have gone with renewed energy to their workaday tasks.

Nor are the nurses at St. Barnabas alone in their enjoyment of country solitude, because hundreds of other metropolitan hospitals are acquiring retreats to which their nurses may go for rest and recreation and a release from the pressing responsibilities of institutional life.

How to Judge Linens

Recent tests have shown that the starching process through which linens are put before marketing, makes an accurate judgment of their quality almost impossible until they have been washed several times. In the opinion of Dr. Warren P. Morrill, superintendent, Columbia Hospital for Women, Washington, D. C., expressed in an article in the *Trained Nurse and Hospital Review*, the best way to judge linens is by weight per square foot, tensile strength, and thread count per inch. Towels should be judged by their absorptive qualities and wearing qualities.

Standardize Qualifications for Technicians

From the standpoint of a laboratory director, selection of a technician is a major hospital problem, according to Dr. Kano Ikeda, director of laboratories, St. Lukes Hospital, St. Paul, Minn. The appreciation of this will doubtless grow with the more common application of scientific methods in medicine in hospital practice.

A competent laboratory technician is vital to the success of the clinical laboratories. In the smaller communities, where it is not always possible to place a physician in charge of the laboratory, it is even more essential that the laboratory technician be well qualified. Often, however, under existing circumstances, it becomes necessary to turn the laboratory over almost entirely to one who is not fully qualified to do the work.

On Choosing Technicians

In choosing a laboratory technician today, great reliance is placed upon the personal statement of the applicant, letters, or a diploma in laboratory technique from the institutions where the applicant received his training. This is due to the lack of standardization in qualifications for laboratory technicians.

The number of so-called "graduates" in medical technology has made it necessary that great care be used in choosing a laboratory technician. It may not be untimely to sound a warning against unscrupulous promoters and private commercial laboratories who are commercializing on the training of laboratory technicians. Their primary aim is not to educate their students thoroughly, but to conduct a profitable business for themselves.

In some cases, well meaning hospital superintendents attempt to offer a course in training in laboratory work in order to save a few dollars on the salaries of hospital personnel. Many hospitals that offer such courses cannot possibly hope to give a thorough course, because the laboratory itself is not fully enough equipped, or perhaps the work in the laboratory does not cover enough of the field of technology to qualify the student to go out and immediately take charge of a larger laboratory, in which she undoubtedly will face problems that never came up in the one from which she graduated.

On Choosing Schools

Dr. Ikeda recommends that any hospital which is going to undertake the teaching of such a course first thoroughly investigate its resources and facilities for giving adequate practical training, and a sufficient number of lectures under competent instructors, for a period of not less than twelve months. Such a course should not be offered without a competent medical man, preferably a clinical pathologist, to supervise it.

The American Society of Clinical Pathologists has authorized the creation of a Board of Registry for Laboratory Technicians under its direct control. As a preliminary step, the board proceeded to conduct a nationwide registration of laboratory technicians, and established a placement bureau that will enable hospitals to secure reliable technical workers.

Universities and medical colleges will be encouraged to offer such a course in their curriculum, and a registry of institutions that are offering an acceptable course will be made.

The ultimate object is to establish a fixed set of rules and qualifications for all who wish to take a course in laboratory technique.

Fifteen Years of Hospital and Medical Coordination

By W. C. RAPPLEYE, M.D.
Commission on Medical Education, New Haven, Conn.

THE rapid increase in the number of hospitals and the extension of their work in relation to community health and medical practice are matters of common knowledge, yet the factors that brought about these developments and the important part that hospitals have played in the progress of medical science and medical practice usually are not fully appreciated. A glance into the recent past and a consideration of former methods of medical service offer a sharp contrast to conditions as they exist today.

Medical practice only a few years ago was carried on largely in the home. Knowledge of many diseases was meager indeed, and much of medical practice was a combination of sagacious observation, shrewd deduction and the accumulated experiences based on such observation. Treatment was usually symptomatic, often largely psychological. The discoveries of bacteriologists provided knowledge of some of the contagious diseases, explained many of the phenomena of infection, opened up a large field of treatment in medicine and suggested early the posibilities of control and prevention.

With the causative agencies of the bacteriological and parasitic diseases recognized, the foundation was laid for the control of most of the communicable diseases by sanitation, quarantine, vaccination, the control of water and food supplies and proper sewage disposal. This brought significant changes in the types of illnesses and the change in mortality from this large group of diseases is illustrated in the accompanying table.

The drop in mortality from the communicable diseases has been offset in part by increases in the various degenerative disorders as illustrated also in the table. Studies of health needs of individuals and communities emphasize clearly that the great improvement in public health work and the sustained efficiency of efforts to control communicable diseases have shifted the emphasis in preventive medicine from the community as a whole to the individual. Only about 10 per cent of illnesses seen by physicians are those against which wholesale public health efforts are directed; 90 per cent are the problems of individual patients. It is fully appreciated that in some of the illnesses in the latter group there are factors that have a public health significance, but the problem as it presents itself to the physician is that of the individual. The study and treatment of this problem have become in part the function of the hospital.

The control of communicable diseases has helped materially to make possible the concentration of population in large cities and the development of industry and commerce in areas not previously habitable. Based upon the fundamental conceptions of bacteriology and infection have been established the foundations of modern surgery. Opening of the various body cavities has been made possible through control of infection based on knowledge of bacteriology. With these developments has come the invention of numerous instruments and devices for mechanical treatment of one kind or another, and with this the development of technical procedures that

Interrelated Services

The hospital today is not only an institution for the diagnosis, treatment and cure of disease, but is also a dynamic agency in reclamation and in prevention through study, early diagnosis and appropriate treatment. These functions have been developed into significant contributions to knowledge of disease and health, and have been elaborated into the essential elements of professional training in medicine, nursing, social service, dietetics, physiotherapy and laboratory procedures. They have made the hospital increasingly indispensable to the modern practice of medicine from which it can no longer be distinguished.

have added many new methods of diagnosis and treatment and have rapidly extended the boundaries of medical science and practice.

Following closely on these developments came discoveries in physics, chemistry, biology, pathology and immunology, which have led to the use of chemical, physical and biological methods in diagnosis and treatment of diseases and have brought us knowledge of the underlying principles of nutrition, metabolism, behavior and many other matters associated with health and disease. The intensive prosecution of these different fields of activity has made possible extensive contributions to our knowledge and has developed numerous specialized techniques.

Mortality From Certain Specific Causes Per 100,000 Estimated Population in the Registration Area*

Cause of Death	1900 Per Cent	1923 Per Cent	Per Cent Change
Typhoid and paratyphoid fever	35.9	6.8	−80
Malaria	7.9	2.8	−65
Smallpox	1.9	0.1	−95
Scarlet fever	10.2	3.5	−66
Diphtheria	43.3	12.1	−72
Tuberculosis of the respiratory system	181.8	83.5	−54
Other forms of tuberculosis	20.1	10.0	−50
Diarrhea and enteritis	133.2	39.9	−70
Cancer and other malignant tumors	63.0	89.4	+42
Diabetes mellitus	9.7	17.9	+85
Cerebral hemorrhage and softening	75.5	92.2	+23
Diseases of the heart	132.1	175.3	+33

The growth of knowledge and the development of these special procedures have laid the basis and in fact have made necessary a considerable division of labor which is the basis of specialization. It is recognized by everyone that no individual can possibly master all fields of medical knowledge or practice at the present time, and that a division of labor has become inevitable, is likely to continue and probably will be extended in the future.

This specialization has gone on not only in medicine. The knowledge derived from many of the underlying chemical and physical sciences has added to medical service a considerable group of activities not previously associated with medicine, as, for example, dietetics, physiotherapy, roentgenology and chemical and physical phenomena now utilized in blood chemistry, metabolism and electrocardiography. The mobilization of all these activities, which are helpful in the diagnosis and treatment of disease, led early to the incorporation of these individual services into what has become known as the hospital, which represents essentially a grouping and organizing of these services.

Much of the early work in hospitals was in the nature of emergencies of one kind or another, at first mostly surgical in character. Early hospital work was largely the treatment of injuries and accidents, amputations, the removal of gross tumors and emergency surgery of the abdomen. Later those afflicted with various types of acute diseases, such as heart and kidney diseases, sought the hospital for treatment. It is obvious that a great deal of the hospital work of that early period was strictly in the nature of treatment in an attempt either to cure disease or to provide the best possible care in acute or wellnigh hopeless conditions.

As knowledge of the chemical, physical and bacteriological factors in disease increased, the idea was introduced into the hospital of studying disease earlier in order to secure treatment at a time when real help could be provided, rather than in the last stages of illness. Conditions in the home would not permit actual study of many of these illnesses and the patients were sent to hospitals for observation, during which time nursing care, laboratory examinations, control of diet and other features made it possible to arrive at a more accurate and comprehensive picture of the situation.

The emphasis on the hospital as an institution for the study of diseases brought about the rapid development of elective surgery and medicine, designed to treat many conditions that did not present pressing emergencies. During this period were developed the procedures for the treatment of such disorders as gall bladder diseases, surgery of the kidneys and hospital treatment of diabetes, nephritis, early heart diseases and the rapid increase in the use of the hospital for obstetrics. It was during this period of expansion that the hospital became such an important vehicle in medical service. The hospital organization expanded far beyond the functions of a hotel for the sick, and became a dynamic, organized agency for the study and treatment of disease. Many of the great advances in medical knowledge of recent years would not have been possible without the hospital.

"Reclamation" Medicine Develops

Knowledge of disease and of treatment has grown through the increasing use of hospitals and the training of skilled personnel, and we have witnessed in the last fifteen years a rapid extension of elective medicine and surgery into what might be termed "reclamation" medicine. Medical knowledge has now made possible the treatment of conditions that fifteen years ago were considered hopeless and for which only palliative measures were indicated. Today, however, active

*United States Mortality Statistics, 1923, Bureau of the Census.

efforts are made in such cases, with considerable success, to restore functions and to correct incapacities, which would not have been attempted before. This new field has been opened partly because of our better knowledge of the prognosis and course of disease, made possible by accurate observation and records kept in the hospitals, and because of the growing confidence and skill of physicians working under the more satisfactory hospital services now available throughout the country.

Hospital Program Expands

This extension of medical service is illustrated in the field of orthopedics where serious disability and often incapacity can be partially or wholly relieved, as in certain disorders of the spine and the residua of infantile paralysis and congenital defects. The remarkable results in cases of cleft palate and harelip, in the treatment of stricture of the ureter, of incapacitating diseases of the lungs and pleural cavity, of disorders of the glands of internal secretion, of serious disorders of nutrition and metabolism, the allergies and protein sensitization, and of chronic diseases of the stomach, intestines and gall bladder and certain of the early malignancies, need only be mentioned to suggest numerous other conditions that only recently have been brought under a more hopeful outlook.

These efforts have led to an extension of the hospital program into the field of convalescent care and the treatment of many chronic disorders, which in the past have been largely considered beyond the concern of the hospital. Many individuals in various degrees of invalidism and incapacity can now be returned to a considerable degree of normal function and allowed to resume essentially normal life again.

It has been logical that this program should emphasize the possibilities of prevention, the central idea of which is early diagnosis and treatment of disease at a stage before symptoms or signs of disorder are obvious. The study of the life history of most diseases indicates that derangements can be identified often long before symptoms are evident, and out of this emphasis has come the development of prenatal care, periodic medical examinations, the inspection of school children and the supervision of normal infants.

The emphasis on individual preventive medicine has given rise to the belief that this is a distinct field of medicine and a new specialty or a function to be carried out by some agency other than medical practice. As a matter of fact, the preventive aspects of medical care have always been an essential part of medical practice and cannot be separated from the fundamental problems of curative medicine. The emphasis on prevention, nevertheless, has brought to medical practitioners, a broader conception of what constitutes medical practice.

The hospital is one of the most important agencies in this new field of preventive medicine. Increasing numbers of patients are going to hospitals for observation without having acute symptoms or outward indications of illness. It is recognized that there are wide variations in what are nominally normal conditions of health. The distinction between normal and abnormal is exceedingly difficult to make in many instances, and requires close observation and accurate determination, which can be obtained only under hospital conditions. Such matters as metabolism, irregularities of the heart, deviations from the normal in the kidneys and bladder, in the gastro-intestinal tract, in the blood chemistry, illustrate the point.

Specialization Develops

These efforts to make fine distinctions in function, to detect slight changes in chemical composition of body fluids and metabolism, to define more accurately under almost experimentally controlled conditions the delimitations of the range of normal performance, have brought more refined procedures of examination and more intensive methods of treatment. They have further accentuated the tendency and necessity for specialization which has now proceeded far. The extent to which it exists now is illustrated in the accompanying table. Of the 157,000 physicians in the United States, about 40,000 either limit their practice to a specialty or give particular attention to some limited field; almost one-half limit their practice to a single field. The numbers of physicians in the major groups are:

General Surgery		11,391
Head Specialties		7,473
Eye, Ear, Nose, Throat	4,700	
Eye, Nose, Throat	1,477	
Eye	1,296	
Obstetrics and Gynecology		5,467
Obstetrics	2,378	
Obstetrics and Gynecology	1,817	
Gynecology	1,282	
Pediatrics		3,052
Internal Medicine		2,933
Urology		1,971
Neurology and Psychiatry		1,121
Twelve others, each less than		1,000

The fact that 40 per cent of recent medical graduates limit their practice to a specialty and

that about the same proportion are doing general practice but are giving particular attention to a specialty, suggests that specialization has been carried beyond the actual needs of medical service. Studies by the Commission on Medical Education of the actual demands for medical services, the character of the work done by specialists and the studies made by a number of agencies on the health needs of different groups of the population, indicate rather clearly that specialization has been overdone.

Responsibility Becomes Divided

Not only has the enormous increase in knowledge made necessary a subdivision of labor but there are other factors operating to increase specialization. Among these may be mentioned the economic features of concentrated efforts, public and professional recognition, the satisfaction of concentrating endeavor upon a single field of activity that can be more or less completely mastered, the rapid increase in the use of various instruments and techniques of examination and treatment and the system of present day medical training, during which practically all teaching is conducted by specialists. Specialization has also had the tendency to subdivide responsibility for the care of patients and in some instances has led to unnecessary examinations and commercial exploitation.

The defects and disadvantages of overspecialization, however, will gradually be corrected as hospitals assume greater responsibility in the selection of their staffs and in the character of work performed within the hospitals. That hospitals have large opportunities for assisting in the correction of some of these defects is suggested by the fact that about 85,000 physicians in this country are on the staffs of the various hospitals, and a further large group of physicians have the privilege of working in many of the hospitals or of referring their patients to the hospitals for study, care and treatment.

Even among hospitals themselves, there is a tendency to specialize. The classification of hospitals in the United States, with the approximate number of beds in each, illustrates this tendency:

	Hospitals	Beds
General	4,322	345,364
Nervous and Mental	563	373,364
Tuberculosis	508	63,170
Maternity	178	5,747
Industrial	168	7,039
Convalescent	159	8,143
Isolation	98	8,895
Eye, Ear, Nose, Throat	77	2,832
Orthopedic	62	5,595
Children's	58	5,050
Skin and Cancer	16	949
Hospital Dept. of Institutions	530	21,930
All Other Hospitals	68	5,240
Total Hospitals	6,807	
Total Beds		853,318

There is considerable variation in the number of hospitals in each group. During the last five years the number of maternity hospitals has decreased from 262 to 178. Only about 10 per cent of obstetrical cases cared for in hospitals are cared for in maternity hospitals. Isolation hospitals, skin and cancer hospitals, hospital departments of institutions and children's hospitals have also shown a considerable reduction in numbers, as the general community hospitals have expanded their functions and the physicians as well as the public have come to appreciate the advantages of the general hospital.

An important feature of the enormous growth in medical knowledge, of the subdivision of labor and of the use of various types of subsidiary medical service, has been the great increase in the cost of medical care. Much is said about the cost of medical care but it is clear that most of the increased cost is attributable to the expensive equipment and procedures now considered necessary for complete medical care. Early treatment of a disease that might lead to incapacity is one effective form of preventive medicine. Early and proper treatment of such a simple condition as appendicitis is economically sound. Scientific study of many of the more obscure disorders at an early stage of their development, when proper treatment promises much, costs money, but the economic factor of such treatment is often small compared with the later costs of that illness if neglected, the smallest of which may then be financial. That some exploitation and unnecessary examinations and treatment have occurred, no one questions.

Expensive Equipment Now Required

Modern medical practice has introduced another economic matter, namely, an investment in modern scientific equipment and trained personnel. In the older forms of medical practice no such investment was necessary for hospitals, largely because the physician carried his entire armamentarium with him as he made his calls in the home. Today, however, elaborate equipment and extensive facilities are required to perform the highest grade of medical service, and philanthropic members of the public have been rapidly increasing their contributions for the erection and maintenance of institutions of medical care. Because of their growing interest in financing medical service units, the members of the public

are entitled to fuller information regarding the ways and means by which medicine is practiced, particularly from the aspect of its cost. Most people familiar with this general question do not have in mind the placing of professional services under the control of commercial or lay groups, but are interested in having adequate distribution of medical services at a reasonable cost and having such services available to all members of the community.

These are new economic factors that have been introduced into medicine and they apply particularly to the hospital group, which represents, after all, the largest financial outlay for capital as well as for maintenance in relation to medical services. Even the individual practitioner of medicine today, however, must make a much larger financial outlay than his predecessor of a generation ago, and it is well known that the actual overhead of maintaining a sound medical practice by the individual physician consumes 25 to 40 per cent of his fees.

It is due to this economic situation as well as to the necessity of securing group opinion that group practice has developed in all sections of the country. The hospitals present the largest financial factor in modern medical practice, which can be illustrated by the following figures:

Total value of hospital properties	$4,000,000,000
Annual expenditures for maintenance	525,000,000
Employees in hospitals	500,000
Patients (average)	618,000

These economic questions are challenging the medical profession as well as the public, and numerous suggestions for various forms of health insurance have been made. The fact that between 10 and 15 per cent of illness is hospitalized indicates that this is almost a universal problem.

Hospitals Are Training Centers

The development of diagnosis, treatment and prevention of disease and disability has been sketched hastily. This discussion would be incomplete if no reference were made to several other functions of the hospital. One of the most important of these is that of training personnel. There are over 2,100 schools of nursing in the hospitals of the country. Over 300 hospitals, representing 135,000 beds, are directly associated with the training of medical students. Six hundred hospitals, representing 166,000 beds, provide over 5,000 internships, a number that exceeds the annual number of medical graduates by 1,000. Mention was made earlier of the tendency toward specialization, and 290 hospitals, with a capacity of 160,000 beds, now provide 1,800 residencies for special training. Some of the 4,100 hospitals with x-ray departments and the 4,200 with clinical laboratories are giving training for technical personnel in these fields. The departments of dietetics, physiotheraphy, administration and social service are active in giving training and offering experience in their respective fields.

During the last fifteen years, the medical profession has become more actively interested in continuation courses for practitioners of medicine, and the hospitals in many places have become active training centers for the local members of the profession. University extension courses and various other plans have built this postgraduate training about the hospital as a base. These programs are extending the functions of the hospital into the field of public education.

Many diagnostic and therapeutic procedures are possible only under conditions of actual observation by trained personnel and by the keeping of accurate records. Hospital records have been invaluable in aiding the growth of knowledge of disease and of sound methods of treatment. Current contributions to scientific clinical medicine offer testimony of the important part that the hospital plays in investigative work and research.

Doctors Dependent on Hospital Facilities

Most medical students today are trained in highly developed medical school hospital centers. They grow dependent upon many of the facilities that well equipped hospitals provide and they come to believe these are necessary for medical practice, for study and for self-development. That some features of this training are defective and tend to unfit young physicians psychologically to enter into independent practice in smaller communities is well known. To some extent this condition has been a factor operating to restrict the distribution of physicians, for about 60 per cent of recent graduates locate in communities of 50,000 or greater. But this matter is in process of correction through the growth of hospitals in the smaller communities which will attract increasing numbers of medical graduates to locate in such communities. At present, 49 per cent of the hospitals and 42 per cent of the hospital beds are in communities of 10,000 or less and these hospitals are able to serve most of the rural districts of the entire country. The hospital has thus developed still another function when it serves as one of the vehicles of distribution of medical practitioners, for the largest problem in American medicine today is the adequate distribution of medical service for the entire population at a reasonable cost.

Gauging the Efficiency of the Hospital and Its Staff

By T. R. PONTON, B.A., M.D.
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THE monthly analysis of the work of the hospital has in view a definite object. It is part of the program of all good hospitals to discover defects that may exist in the system, to seek for improvements that may be made in methods of procedure and to reveal incompetence or inefficiency in members of the staff, in order to render to the sick as perfect service as is humanly possible.

In order to accomplish this, the work should be studied in a spirit of constructive criticism. Fault-finding and the attempt to prove some person culpable should be entirely eliminated, but when some person is blameworthy there should be a fearless statement of that fact, always keeping in mind the constructive, not the purely critical attitude.

A systematic review of the work of the hospital should be carried out by persons qualified to analyze the work in its different aspects. In the case of administrative problems, this task naturally falls on the superintendent of the hospital and on the board of trustees. The review of the technical work can be carried out only by the medical staff. To accomplish the greatest amount of work with the least effort a definite routine is not only desirable but is absolutely necessary.

Librarian Analyzes Results

The analysis is based on the medical records of patients discharged. The records librarian who is trained to study systematically the immediate results as shown in the records, is the person who will do a large part of this analysis and will report her conclusions to the medical staff through the superintendent of the hospital. There are certain points in this review that require the technical knowledge of men trained in medicine. In these cases the records should be assembled by the records librarian and presented to a committee of the medical staff. This committee, selected by and from the staff, will eliminate matters that are unimportant from the point of view of improving service, and will select for staff discussion matters that are important. The whole report, however, should be presented to the staff so that matters deleted by the committee may be discussed, if any member so desires.

In order that the records librarian may systematically present the work, she must have as a basis a definite report form. In consultation with the American College of Surgeons, this problem has been studied for a number of years, in order to eliminate matters that do not add to the study of efficiency, and to give emphasis to those that do. The form of report shown in Figs. 1 and 2 is a result of that study and is recommended.

The report comprises primarily an analysis of services and a statement of results produced. These are shown in tabulated form. There are certain points in this report on which the records librarian is competent to pass judgment; there are others in which the technical knowledge of a medical man is required. These latter are the infections—cases of patients developing secondary conditions that are not infections and causes of death.

The analysis of the work is the first tabulated part of the statement. In the left-hand column is a statement of the chief services into which the work of the hospital is usually divided. The second column shows the total number of patients discharged from each of these services during the month. The next four columns show respectively, the deaths, the autopsies, the consultations and the infections in each service. Each of these last four is subdivided into columns showing the number and the percentage, that is, the actual number of patients discharged from each service and the percentage relation borne to the whole service. Percentage is to be used as the basis of comparison.

Examples: Medical service—discharged, 50 patients, deaths, 1; the percentage of deaths in this service is $\frac{1\times100}{50}$ or 2 per cent death rate.

Autopsies, 1, gives the same rate per cent.

Consultations, 9, the percentage is $\frac{9\times100}{50}$ or 18 per cent consultation rate.

Infections are worked out in the same manner. This gives a true comparison of the work in the different services, and also a comparison of the same service from month to month.

Result: In the first column are listed the classification under which the patients are discharged, and in the second the number of patients that have been treated and discharged. The librarian is obliged to list these as they are stated by the physician, hence he must be accurate in his statement and should bear in mind that the results reported are those found by him at the time of discharge. It will be seen that few patients should be reported recovered and that the improved class should be the largest.

Examples: Case 1. A patient with a clean appendix is admitted for appendectomy, is operated upon and discharged, with the wound entirely healed. The patient entered the hospital to receive treatment for the appendicitis and has entirely recovered from the operation. This may be reported as recovered, although the patient still requires some convalescent care.

Case 2. A patient with an acute catarrhal appendicitis and a chronic interstitial nephritis is recovered from the former condition as in Case 1, but is improved as to the latter condition. The general condition of the patient is improved and may be so reported. If the nephritis is not treated the appendix only is considered, and the patient may be reported as recovered.

Cases Librarian Cannot Judge

There are the three types of analysis in which the records librarian is not competent to render judgment, and consequently she should report them so that they may be studied by the staff committee. These are the infected cases, the cases that develop secondary conditions and the deaths.

Infections: In order to bring the infections properly to the attention of the medical staff they are listed in the space assigned either by hospital number, or by whatever means the hospital uses to designate its patients. The staff committee will first decide whether the case is or is not a hospital infection. If the cause of the infection is present and active on admission, the infection is not debited to the hospital; if it is inactive or absent on admission, and is activated or communicated after admission, the infection must be considered as a hospital infection and debited to the proper service.

Examples: Case 3. An acute gangrenous appendix is admitted for treatment, operated upon as soon as possible and closed without drainage. The wound subsequently shows infection. This should not be debited to the hospital unless the technique was known to be bad. The surgeon followed a procedure that usually gives the best results, but the infection which was present and active on admission caused the infection of a necessary wound.

Case 4. A patient was admitted with an old wound that involved a nerve, to have a plastic operation performed. The infection in the old wound had been inactive for the usual time allowed in such cases, and the old wound had entirely healed. The wound became infected after the plastic operation. The infecting agent was present, but was inactive at the time of the plastic operation, and was activated by it, or else a new infection was communicated. In either case the operative procedure was the cause of the lighting up of the infection, hence this must be debited to the hospital and to the surgical service.

Case 5. A patient admitted develops small-pox. If the disease develops in less than nine days after admission it is not a hospital infection, since that is the known minimum period of incubation. If it developed later than the sixteenth day after admission, it is a hospital infection, since that is the maximum period of incubation. If it developed between the minimum and the maximum period of incubation the case will have to be allocated after consideration of the possibility of incubating longer than the known minimum, together with the possibility of some person, either among the visitors or the personnel, communicating the infection after admission.

Having decided that the case is a hospital infection, the committee must next assign it to the correct service; must decide whether the causative agent was communicated within that department or not, and must assign it in accord with the finding, regardless of the service in which the infected case will be treated or was discovered.

Case 6. A patient is admitted to the medical service and develops a hypodermic infection. The treatment is surgical but the infection was communicated by the medical service, hence the infection is debited to it.

Case 7. A postpartum patient develops a phlegmasia albadolens. This is, for manifest reasons, an obstetrical infection.

Committee Analyzes Infections

Since the assignment of infections is to be done by the staff, it is quite apparent that the records librarian should not fill in the columns "Number of Infections" and "per cent" until after these cases have been analyzed by the staff committee. Her procedure in this instance would be to list all infected cases in the space assigned, and present

the records to the committee. Before the meeting of the staff this committee will analyze and allocate these infections, the records librarian will enter the number in the proper column, and will work out the percentage so as to present a complete report to the full staff.

When patients develop other secondary conditions the librarian should list all cases other than

ANALYSIS OF HOSPITAL SERVICE

for the month of_____ 19____

SERVICE	No. of Patients	Deaths		Autopsies		Consultations		Infections	
		No.	%	No.	%	No.	%	No.	%
Medical									
Surgical									
Obstetrical									
Delivered									
Not delivered									
Newborn									
Gynecology									
E. E. N & T									
Urology									
Orthropedic									
Pediatrics									
Dermatology									
Communicable									
Other									
Total Discharges									

RESULTS	Number of Patients
Recovered	
Improved	
Not improved	
Not treated	
In for diagnosis only	
Deaths—under 48 hours	
over 48 hours	
Stillborn	
Total Discharges	

Number of Doctors attending Patients during the month_____

Attendance at staff meeting_____

LIST OF CASES FOR SPECIAL CONSIDERATION

INFECTED CASES	PATIENTS DEVELOPING OTHER SECONDARY CONDITIONS

CAUSE OF DEATH

(See Other Side)

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infections, in which the patient develops a disease condition which was not present on admission, to enable the committee or the full staff to discuss these cases and to take steps, if possible, to prevent occurrences of a similar nature in the future.

Example: Case 8. A postoperative patient develops a lobular pneumonia shortly after operation, the preoperative examination of the lungs

ANALYSIS OF HOSPITAL SERVICE—CONTINUED

CASE HISTORY DEFICIENCIES

CASE NUMBER	Identification Data	Complaint	Personal History	Family History	History of Present Illness	Physical Examination	Special Reports	Consultations	Clinical Laboratory	X-Ray	Other	Provisional Diagnosis	Medical or Surgical Treatment	Pathological Findings	Gross	Microscopic	Progress Notes	Final Diagnosis	Condition on Discharge	Follow-Up	Autopsies
TOTAL																					

LABORATORY REPORT

Urinalysis	
Routine	
Functional	
Quantitative	
Cultures	
Blood Examinations	
R. B. C.	
W. B. C.	
Differential	
Hemoglobin	
Coagulation Time	
Typing	
Wassermann	
Widals	
Cultures	
Blood Chemistry	
Blood Sugar	
Blood Urea	
Non-Protein Nitrogen	
Creatinin	
Uric Acid	
Others	
Tissues	
Gross	
Microscopic	
Spinal Fluid	
Cell Counts	
Colloidal Gold	
Cultures	
Globulin	
Wassermann	
Gastric Analysis	
Stool Examinations	
Smears	
Animal Inoculations	
Sputum Examinations	
Vaccines	
Exudates	
Transudates	
Throat Cultures	
Basal Metabolism	
Autopsies	
Miscellaneous	
TOTAL	

REPORT OF X-RAY DEPARTMENT

Radiographic Examinations	
Fluoroscopic	
X-Ray Therapy	
TOTAL	

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having shown that they were clear. This is a secondary condition developing probably as a result of aspiration or anesthetic irritation during the operation. Some authorities would consider this an infection from an infected mouth, but it is probable that the mechanical factor is the primary cause and the case should be studied in an attempt to prevent the occurrence of similar cases.

Deaths: This section of the report needs little comment. The records librarian lists all cases of death and the staff studies them, in an endeavor to gain knowledge of any preventable condition, which may have contributed to the result. It is not advisable to spend time on inevitable deaths, such as advanced carcinoma, but such deaths as those due to postoperative goiter should be carefully analyzed.

Complete and Incomplete Records Separated

The reverse side of the sheet is left as it is in the present form. The left half is devoted to an analysis of case records. In the first columns the records librarian lists all cases discharged in which the record is incomplete when received in the office. In the subsequent columns she indicates by a check mark ($\surd$) the incomplete entries. When the attending doctor has completed his record she crosses this check mark ($\times$). She thus has a record for each month of records incomplete on receipt, those that have been subsequently completed, and those that are still incomplete.

The right half of the page is a report of the work done in the various laboratory departments, and needs no comment.

What is to be gained by the review? As stated at the outset, the purpose is to seek preventable causes of mortality and morbidity in an attempt to correct them. This is done in the following respects:

1. Study of the death rate will show how the work of the hospital and its services compare with known averages.

2. While a lack of autopsies does not of necessity show a lack of scientific practice, it is generally found that a hospital in which the autopsy rate is high ranks high in scientific attainment.

3. The consultation rate is a measure of the cooperation between the members of the staff and also of the care given in correct diagnosis and treatment.

4. The infection rate is an accurate measure of the efficiency of technique in all services. A high infection rate immediately proves that there is a condition present that should be remedied. A low infection rate is a great incentive to careful and painstaking work.

5. Development of secondary conditions is sometimes unavoidable, but as in the case of the allied conditions—the infections—the rate should be low.

6. The ratio between the number of physicians attending patients during the month and the number attending staff meetings is a fairly accurate measure of the loyalty of the staff, in that the members wish to study the work done in the hospital in order to improve it.

7. An accurate record is kept of the completeness or incompleteness of the medical records. Both are a guide in estimating the scientific efficiency of the hospital and its medical staff.

State Hospitals Have Difficulty in Finding Social Workers

Community clinics are offering such good opportunities to psychiatric social workers that the state hospitals are having difficulty in keeping their ranks full. It is due to changes of the work that the community clinics have been enabled to offer better opportunities in this field according to a statement by Maida Solomon, Boston Psychopathic Hospital, Boston, in an article in the *American Journal of Psychiatry*.

The first social psychiatric workers were known as "after-care workers," their functions corresponding with that title. With the passing of time, the advantage of knowing the patient's history was realized and clinics were developed whose object was to investigate the history of psychiatric cases.

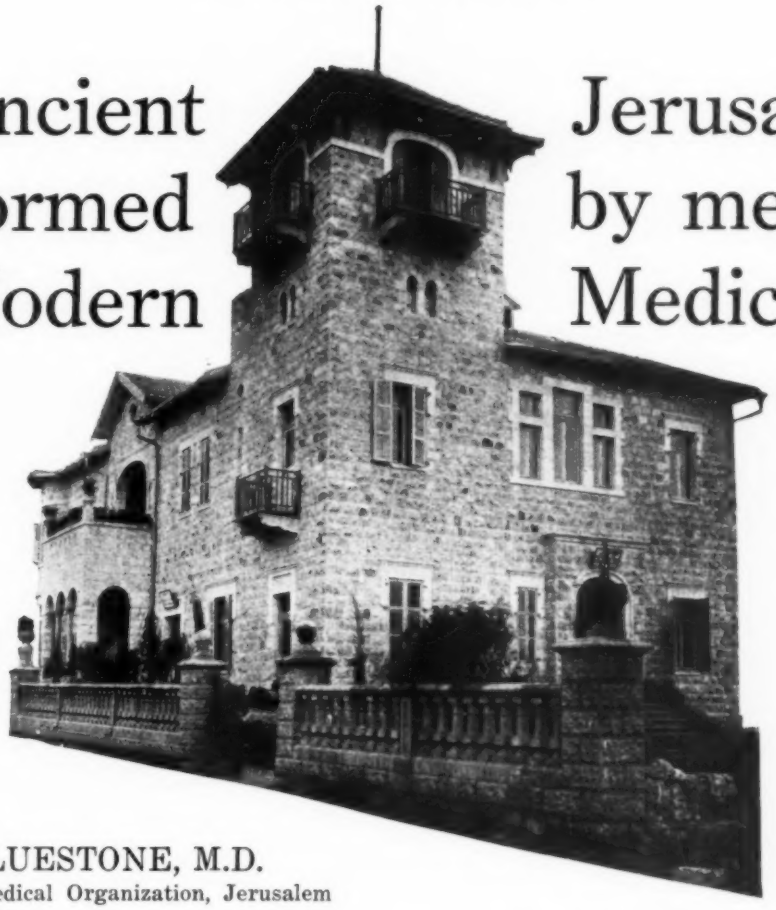
The function of social workers in state hospitals was, originally, to assist in the medical work of studying and treating mental disease. On account of the large number of cases per worker in the state institutions, and the great amount of work demanded of each, it was easy for the worker to become isolated from her coworkers. This condition led either to a settlement to routine work, or complete discouragement of the worker.

In the community clinics, on the other hand, preventive rather than curative work, was introduced in child guidance. The work was made more attractive because each worker was limited to a certain number of cases, and because of more auspicious facilities for work.

The practical result from the standpoint of state hospitals is that they are unable to secure the better trained and more efficient psychiatric workers. This is a drawback to the social workers, because, being blinded by the opportunities presented by the community clinics, they fail to see the wonderful chance for field training which is offered by the state hospitals. In time, too, the necessity for knowledge of the actions of adult cases will present itself, and the workers who are devoting their time to child guidance, will feel a definite lack of this knowledge.

It is suggested that the state institutions can make the conditions of work more parallel to those in community agencies by limiting the number of hours of work, granting longer vacations, providing a car for transportation, and since the expenses of the workers are paid by the state, the hospital should be able to pay higher salaries. A course in social psychiatric training has also been suggested as a means of getting new workers into the field.

Ancient Jerusalem Transformed by means of Modern Medicine



The fifty-bed Hadassah Hospital in Haifa.

By E. M. BLUESTONE, M.D.
Director, Hadassah Medical Organization, Jerusalem

THE Hadassah Medical Organization, which has now passed the tenth year of its existence, came into being as the American Zionist medical unit toward the end of the World War. At that time the Renaissance movement among the Jewish people throughout the world received great impetus through the Balfour Declaration, and shortly thereafter, England was intrusted with the mandate over Palestine, under which the Jewish homeland was to be fostered.

This movement was particularly strong in America, where the Jewish people were numerous and were comparatively better off than their less fortunate brothers in war-stricken Europe, chiefly in central and eastern Europe, where many of the refinements of medieval intolerance had been revived.

A group of American women with the Jewish national idea before them, organized under the name of Hadassah, the Women's Zionist Organization, had for some time been interested in health and medical work in Palestine, and as they grew in membership and in strength they took over by degrees the financing of the Hadassah Medical Organization as their specific contribution to the upbuilding of the country. This organization now includes almost forty-five thousand women in all of its divisions and chapters in America. The institutions are in the Jewish centers of population throughout Palestine but are conducted on a strictly nonsectarian basis. A considerable portion of non-Jewish patients enjoy their benefits.

The governing board in America (appointed by the American Hadassah Women) decides the policy, approves the budget of the Hadassah Medical Organization in Palestine, and acts through a director who is subject to its control. The present administration was appointed at the end of 1925, for a period of three years, and it is hoped that the local population will be able to assume control of the various institutions of Hadassah in the course of time.

The local administration in Palestine consists of two advisory (not executive) bodies. The director serves as chairman of both, and his responsibility for the administration remains undivided. The general advisory board is composed of public spirited lay residents of Palestine, whose functions are limited to matters of a nonprofessional nature. The medical advisory council is composed of those specialists who supervise the various branches of the medical work of the Hadassah Medical Organization in all parts of the country, with headquarters in Jerusalem. There are at present a chief pediatrician, a chief ophthalmologist, a chief physician of the school hygiene department, a pathologist and the chief of bacterio-

logical laboratories (who is at the same time professor of hygiene at the Hebrew University). Their number will be increased as additional chief physicians are appointed in the organization.

The general headquarters of the Hadassah Medical Organization, where the work is strongly centralized, is situated in the capital city, Jerusalem, with district offices in Jerusalem (central), Tel-Aviv and Judea (southwest), Haifa (northwest), Safad (upper Galilee), and Tiberias (lower Galilee). Each of these administrative districts, with the exception of Galilee, is under the supervision of a physician administrator, who serves in the capacity of district officer. In Galilee, the nonmedical affairs are conducted by two secretaries.

A number of departments at headquarters are of a semi-independent nature as far as the districts are concerned, and are administered by executive officers. These are the nursing department, health welfare department, school hygiene department, accounting department, pharmacy department, statistical department, department of dietetics and supply department, with control over a large central storehouse in Jerusalem, which serves also as the local headquarters of the Palestine supplies department of the American organization (a subsidiary body composed of 700 sewing circles in America with large philanthropic activities among Palestinian institutions).

The activities of the Hadassah Medical Organization fall into three divisions:

A. Preventive Medicine:

School hygiene department; prenatal and postnatal care; midwifery service in the homes; infant welfare; care of children of preschool age; immigrant service; antitrachoma service; antituberculosis service; district visiting nursing.

B. Curative Medicine:

In the hospitals and dispensaries and in the homes of patients. (Under this division come the home visits of physicians and nurses, and the rural medical service in about forty colonies).

C. Education and Research:

School for nursing; training of interns and graduate residents in hospitals; volunteerships for physicians; courses for practicing physicians in cooperation with the Hebrew University; special courses for nurses; funds for postgraduate study abroad; clinical and laboratory research; publications.

For all these purposes a total annual budget of almost $700,000 is available, besides a number of special (not endowment) funds, which are earmarked for particular purposes.

Preventive Medicine

1. School Hygiene Department. The school hygiene department supervises 266 schools (117 kindergartens, 91 elementary schools, 11 second-

Infant welfare station, Haifa.

Fighting trachoma among school children in Tiberias.

ary and vocational schools, and 47 religious schools) in eight cities (Jerusalem, Tel-Aviv, Haifa, Tiberias, Safad, Hebron, Acre, and Afule) and in sixty-four rural settlements. The total number of pupils under its supervision is about 23,000. Of this number approximately 16,000 attend schools under the control of the Palestine Zionist Executive (the Jewish agency).

Pupils requiring treatment are sent to the Hadassah hospitals and special clinics for school children. Vaccination against typhoid and smallpox is a regular feature of the work. Close attention is given to children suffering from diseases of the skin, scalp, and eyes, twenty-nine specially trained practical (undergraduate) nurses being engaged in the antitrachoma campaign in all of the schools.

In the school year 1918-19, when the school hygiene department was established, 40 per cent of all pupils in the Jewish schools were found to be suffering from trachoma. This ratio has been reduced to 10 per cent in the same schools. This figure compares with the ratio of 62 per cent in other schools.

In 1918-19, 40 per cent of the Jewish school children had diseases of the skin; today these diseases have been practically wiped out in the schools supervised by Hadassah.

At the dental clinic in Tel-Aviv, which is conducted in cooperation with the Jewish Dentists' Society of that town, school children are examined and treated without charge.

Especially trained health welfare nurses give classroom lessons and practical demonstrations in personal, school and household hygiene, with the active coperation of the teachers. Both physicians and nurses cooperate with the teachers in charge of their domestic science classes in twelve schools and nine kindergartens, where pupils' luncheons are prepared.

The cisterns of all schools are examined at the end of the rainy season, the water chlorinated when necessary, and constant watch kept for impurities. Sanitary conditions in the school buildings are under close supervision.

2. Health Welfare Department. A complete child welfare program is carried out at the eighteen health welfare centers throughout the country. The program includes prenatal and postnatal care, maternity district nursing, infant welfare work, preschool work, school nursing and district visiting nursing. Cooperating organizations render financial assistance as well as social service.

Twenty-six graduate nurses are engaged in this work, with six nurses' assistants. A number of voluntary physicians serve in these stations under the supervision of the chief pediatrician of the organization.

The nurses in charge of the centers give frequent lectures and practical demonstrations in the preparation of milk formulas for infants and of food for the older children.

During the year 1927, 4,863 expectant mothers were cared for at the health welfare centers and about 5,062 infants. The record shows that a

large proportion of these expectant mothers were delivered at our hospitals, or in their homes by Hadassah-trained midwives.

The number of visits to the health welfare centers during 1927 was: mothers, 25,595; infants, 54,876. Examinations made by physicians at the centers during 1927 numbered: mothers, 9,243; infants, 10,876. Visits of nurses to homes during 1927 numbered 13,797.

3. Home Visiting Nursing. A system of home visits and bedside nursing was initiated in Tel-Aviv during the past year for needy patients who could not, for one reason or another, be received at the hospital, and who were physically unable to go to the dispensary. Laboratory and prescription services were given free of charge.

In Haifa, Safad and Tiberias, Hadassah physicians pay as many home visits as possible to needy patients, while in the colonies both physicians and nurses make home visits a part of their regular activities.

4. Antitrachoma Campaign. The campaign against trachoma and other infectious diseases of the eye is waged in the schools, at the hospitals and dispensaries, and at a special eye clinic in the Old City of Jerusalem. The antitrachoma work is carried on intensively in the rural districts as well. An itinerant eye surgeon visits all the Jewish colonies at frequent intervals. School children suffering from trachoma are treated by nurses especially trained for the purpose, working under the supervision of physicians.

Trachoma Prevalent Among Arabs

General statistics concerning the results of the antitrachoma campaign here must always be read with two facts in mind, namely, the constant increase in the number of trachoma patients with the influx of immigrants from the Near East and the middle eastern countries, and the prevalence of trachoma among the local Arab population.

5. Antituberculosis Campaign. The Hadassah Medical Organization carries on the antituberculosis campaign in the following ways: general work in all hospitals and polyclinics; special tuberculosis ward in the hospital at Safad, which contains thirty beds; home visiting nursing for tuberculous patients; instruction in the care of tuberculous patients in the school for nursing; tuberculosis clinics in Jerusalem, Tel-Aviv and Haifa, conducted in cooperation with the Antituberculosis League.

6. Nathan and Lina Straus Health Centers. The Nathan and Lina Straus health centers for all races and creeds in Jerusalem and in Tel-Aviv are in course of construction. They are governed by separate committees in which the Hadassah Medical Organization takes a leading part. These centers are dedicated to a broad program of preventive medicine and public health education.

The Jerusalem Health Center will house the following activities:

A Pasteurization plant, which will serve the local population directly and all of Palestine indirectly by educating the people as to the best means by which pure milk can be secured at the lowest cost.

A nonprofit model cafeteria.

A prenatal division for expectant mothers.

An infant welfare division.

A department for preschool children.

A department for school children.

A mental health class, where special emphasis will be given to the study of disorders of behavior in children.

Malnutrition classes for children.

Clinics for dental prophylaxis.

A museum and health exhibit, library, reading room, doctors' room.

A department for adult health examinations.

A dietetic section for the teaching of theoretical and practical dietetics to student nurses in the school for nursing, as well as to other dietitians in the country.

A lecture hall seating over 200 people, primarily for the purpose of health education.

A day nursery.

A section for difficult feeding cases.

An orthopedic gymnasium for corrective exercises.

A model kitchen and living room where people will be taught how to arrange their households economically, with simple material for equipment.

Boys' and girls' clubrooms, with showers close by.

An administration section for the health welfare work of the Hadassah Medical Organization.

The Health Center in Tel-Aviv has been planned along the same lines.

Curative Medicine

1. Hospitals. The Hadassah Medical Organization operates four general hospitals which care for short-term cases, as follows: Jerusalem, Tel-Aviv, Haifa and Safad, with a combined bed capacity of 367, expanding in the summer to 400. The total Jewish population in the country is 150,000. With the exception of Safad, where the hospital is situated in the hills of Upper Galilee, all of our hospitals are electrically lighted and the Jerusalem hospital has its own power plant and laundry. All of these hospitals carry special emergency equipment for sudden and unexpected service.

The "Daily Express," used by the Hadassah Organization for delivering milk to babies in Haifa. No chance for engine trouble here.

Jerusalem. The Rothschild Hospital, the headquarters of the central (Jerusalem) district, was placed at the disposal of the Hadassah Medical Organization by the Rothschild family, together with an annual contribution. It serves an unusually cosmopolitan population consisting of almost every known shade of social, political and religious opinion. The ancient, the medieval and the modern exist here side by side, and this in itself furnishes an administrative problem of rare fascination.

The hospital contains 121 beds with the following departments: internal medicine, surgery, gynecology and obstetrics (maternity departments require special emphasis because of the poor housing conditions), ophthalmology and pediatrics. These departments have an average number of beds, which varies somewhat with the seasons of the year. Beds are provided for acute neurological, dermatological, ear, nose, and throat, and other special patients as the need arises. The number of patients treated during 1927 was 3,052 (including 534 infants), who received a total of 43,486 hospital days. More than 80 per cent of the patients received free treatment.

Tel-Aviv—Jaffa. The Hadassah hospital in Tel-Aviv, the headquarters of the Judea district, has a total of 130 beds, and is at present housed in several rented buildings converted for hospital use. It serves a relatively homogeneous population in a town that was recently created alongside the old Arab city of Jaffa. A new hospital building with a capacity of 100 beds is being erected by the Tel-Aviv municipality, with the financial cooperation of the American committee on Hebrew University Hospital Fund (consisting of Hadassah in America and the American Jewish physicians' committee), the Rothschild family and the Palestine Government. This is the only hospital in the city of Tel-Aviv and the adjacent rural district, with a Jewish population of almost 50,000. It contains the following departments: internal medicine, surgery, children, ophthalmology, obstetrics and gynecology. In 1927, 4,142 patients (including 1,029 infants) received treatment, a total of 44,550 hospital days. Fully three-fourths of this number were free patients.

Haifa. The Hadassah Hospital in Haifa (fifty beds), the headquarters for the colonies in the Valley of Esdraelon and of the Coastal Plain, is housed in a rented building converted for hospital use and serves a varied population, with the following departments: internal medicine, maternity and diseases of children. Beds are made available for ophthalmological and emergency surgical cases as necessary. In 1927 the number of patients who received treatment was 2,142 (including 277 infants); and the number of hospital days, 18,467. The large majority were free patients.

Safad (Upper Galilee). The Hadassah hospital in Safad (sixty-six beds) is housed in a hospital building placed at our disposal by the Rothschild

family. Half of the beds are occupied as a special tuberculosis department, the only one of its kind in a country with a population of about 850,000. In addition to the tuberculosis ward, there are departments for internal medicine, maternity and children. In 1927, 1,012 patients (including 78 infants) received treatment, a total number of 22,286 hospital days. The majority of those treated were free patients.

Tiberias (Lower Galilee, about 700 feet below sea level). The Hadassah Medical Organization is about to take over the Schweitzer Hospital (now in course of construction) which will have a bed capacity of thirty-one for general medical work, with eleven beds for male patients, eleven for female patients, and nine for children. At present patients in Tiberias are sent to the Hadassah hospitals at Safad and Haifa.

Many Free Patients Treated

The total number of patients treated in all of the Hadassah hospitals during 1927 was 10,348, and the total number of hospital days was 128,789. More than 75 per cent of those treated were free patients unable to pay anything at all, most of them being urban and rural workers.

The per capita cost of patients per day in the hospitals was as follows: Jerusalem, about $3.00; Tel-Aviv, about $2.50; Haifa, about $3.00; Safad, about $2.00.

2. Dispensaries in the Cities. The Hadassah Medical Organization maintains out-patient departments to the hospitals in Jerusalem, Tel-Aviv, Haifa and Safad, and has a large independent dispensary at Tiberias.

Jerusalem. The dispensary, a rented building close to the hospital, has departments for internal medicine, surgery, gynecology, diseases of children, ophthalmology, tuberculosis, dermatology, neurology and physiotherapy. During the last year 25,473 new patients were treated, giving a total number of 149,559 visits to these clinics.

Tel-Aviv. The dispensary, a rented building, has departments for internal medicine, surgery, gynecology, ophthalmology, diseases of children and neurology. During the last year 15,581 new patients made a total of 88,626 visits.

Haifa. The dispensary, a rented building, has departments for internal medicine, gynecology, diseases of children, ophthalmology and surgery. During the last year 13,951 new patients paid a total number of 60,090 visits to these clinics.

Safad. The departments of the Safad dispensary, a rented building, are as follows: internal medicine, ophthalmology, diseases of children and surgery. In 1927, 4,585 new patients paid a total number of 35,453 visits to these clinics.

Tiberias. A dispensary in a rented building, for internal medicine, ophthalmology, pediatrics, minor surgery and dermatology is conducted in this city. In 1927, 17,909 new patients paid a total number of 106,875 visits to these clinics.

Pharmacies are maintained in connection with the Hadassah clinics in the cities and in the colonies.

3. Laboratories. All laboratory work required for the patients of Hadassah hospitals and dispensaries is done in our own laboratories at Jerusalem, Tel-Aviv, Haifa, Safad and Tiberias. The central hospital is in Jerusalem, where there are, in addition, fully equipped and thoroughly up-to-date x-ray laboratories for diagnosis and therapy and a pathological laboratory.

These laboratories also serve the rural settlements of the respective districts as well as the cities. In some instances, as in Safad and Tiberias, the Palestine Government and other institutions, such as the Sick Fund of the Federation of Labor, avail themselves of the laboratories. One hundred autopsies were performed during the last two years.

4. Rural Medical Service. The rural medical service is administered from the cities that serve as the district headquarters. About forty colonies are served.

How Rural Communities Are Served

Full time or part time physicians are provided in the rural settlements and small towns in cooperation with the local town or village councils. The appointments are made in accordance with one or another of the methods outlined below, administrative and medical supervision over the work of the colony physician being centralized in Jerusalem:

a. The physician is employed on a full time basis, receiving a full salary from Hadassah and the local council. In this case, he has no right of private practice.

b. The physician is subsidized on a part time basis, and serves the entire Jewish population without charge. He has limited rights of private practice.

c. A local physician is engaged by Hadassah to do special work, such as medical service in a Yemenite community and medical school inspection. He has the full right of private practice.

d. An itinerant ophthalmologist makes regular tours of all the colonies, giving not only treatment but instruction in the care of the eyes and methods of prevention of trachoma and other diseases of the eye.

Table of the Work of the Hadassah Medical Organization
1919-1927

Year	Clinic: Patients admitted to hospital	Clinic: New patients	Clinic: Total visits	Clinic: Home visits	Clinic: Laboratory examinations	No. of pupils under the supervision of the school hygiene department
1919	3,481	57,036	339,461	10,736	9,567	10,395
1920	4,673	81,671	399,621	19,410	28,158	.....
1921	5,192	79,669x	438,729x	15,022	48,727	10,349
1922	6,936	109,800	601,860	22,360	71,998	9,354
1923	7,880	90,329xx	515,680xx	23,907	66,382	11,125
1924	8,330	94,126	521,822	39,125	80,746	11,655
1925	9,708	101,399	542,584	31,757	83,175	20,425
1926	10,041	110,068	602,485	37,498	102,167	22,619
1927	10,334	115,464	617,668	41,769	80,471	22,894

x Including clinics in road-building camps.
xx Decrease due to transfer of a number of H. M. O. clinics in labor settlements to the Sick Fund of the Workers' Federation.

During the last year, 37,965 new patients in the colonies paid 177,065 visits to the various rural clinics.

The rural medical service of Hadassah also includes prescriptions at cost, laboratory service, and the visits of specialists from the cities when necessary.

The local communities always participate in the cost of the medical service, the ratio of participation varying widely. The Yemenite settlements pay about 5 per cent, while settlements assisted by the Palestine Jewish Colonization Association (Baron de Rothschild Foundation), or those whose general economic level is fairly high, pay from 60 per cent to 90 per cent. The communities furnish housing for the clinics and the personnel, and frequently pay for the maintenance as well.

Education and Research

1. Supplementary Training for Physicians. The educational program is as follows:

a. A two-year course for general interns in all branches of medicine and in the laboratories.

b. A three-year course (with option of a fourth year) for physicians who, having completed a general internship, wish to spend more time in the specialties.

c. Special educational facilities for practitioners who come to observe in the various departments (volunteerships) or for special research problems.

d. Courses for physicians in cooperation with the Hebrew University. Joint lectureships by prominent visiting clinicians.

2. School for Nursing. The school for nursing attached to the Rothschild Hospital at Jerusalem graduated its seventh class with nineteen nurses in December, 1927, bringing the total number of its graduates to ninety-three. Hebrew is, of course, the sole language of instruction in the school, as it is in the hospitals and clinics.

Several new features were recently introduced into the school: (a) postgraduate courses in the health welfare department; (b) an obligatory course in midwifery, and (c) a short course for the training of male orderlies. Seven male orderlies were recently trained in the first class and

H. M. O. Hospitals and Clinics in 1927

	Jerusalem	Tel-Aviv	Haifa	Safad	Tiberias	Total
No. of Patients Received at Hospitals during 1927	3,061	4,132	2,138	1,003	.....	10,334
Discharged Cases by Results:						
Cured	2,207	3,199	1,209	464	.....	7,079
Improved	553	606	788	458	.....	2,405
Transferred or not improved	111	126	56	33	.....	326
Died	181	211	89	57	.....	538
Total	3,052	4,142	2,142	1,012	.....	10,348
No. of Sick-Days in Hospital	43,486	44,550	18,467	22,286	.....	128,789
No. of Patients in Clinics	25,473	15,581	13,951	4,585	17,909	77,499
No. of Visits to Clinics	149,559	88,626	60,090	35,453	106,875	440,603

employed in Hadassah institutions upon completion of the course.

3. Publications. A bimonthly bulletin in Hebrew is published under the auspices of the Hadassah Medical Organization in Jerusalem.

The first textbook on the nursing of diseases of the eye for the use of the Hadassah school for nursing was prepared by the chief ophthalmologist and recently published in Hebrew. Another textbook shortly to be published will be devoted to pediatric nursing.

Pamphlets on the care of the eye and on general hygiene have been published in Hebrew and circulated as a feature of the health campaign.

The physicians of Hadassah contribute scientific articles to various medical journals in Europe and America, and also to the Palestinian Hebrew medical journal, *Ha-Refuah.* A number of original problems have been studied in cooperation with the Hebrew University.

The paid staff of the Hadassah Medical Organization, which includes about 650 persons, consists of 80 physicians (20 per cent of the medical profession in the country), 260 nurses (including graduate, undergraduate and pupil nurses), 230 administrative and clerical workers, and other miscellaneous employees.

Specialists From Abroad Head Departments

The organization has adopted a policy of drawing in specialists of high rank from the larger clinical centers abroad to head its various medical departments. The entire hospital and dispensary staffs and many of the rural physicians serve on a full time basis, and are forbidden private practice except for consultations on the invitation of a physician, the income passing to the Hadassah Medical Organization. We now have chiefs in five clinical and laboratory departments. Negotiations are in progress with well known specialists to head additional departments.

The statistical department is in charge of a trained statistician, and the dietetic department is being reorganized under a supervising dietitian for the entire organization.

The Hadassah Medical Organization enjoys a measure of autonomy from political control and is not an integral part of the Palestine Zionist Executive. Its collections in America are semi-independent. There is, however, a strong bond of union between the medical work and the general political program. Two members of the advisory board are representatives of the Jewish agency (the Zionist Executive) and the budget is submitted to the Palestine Zionist Executive and to the World Zionist Congress for approval.

It is worthy of note that the Jewish medical budget for Palestine (the Hadassah Medical Organization, and the Sick Fund of the Jewish Federation of Labor) was almost double that of the public health department of the Government of Palestine during the past year.

A campaign against typhoid, by vaccination and other means, has been carried on jointly by the public health department and the Hadassah Medical Organization. Other Jewish hospitals (two general hospitals in Jerusalem and one special hospital) receive laboratory and consulting service from the Hadassah Medical Organization, as well as linens from the Palestine supplies department of Hadassah in America. The department of radiology, which has the only first-class laboratory in the Near East, serves the entire country, as does the pathological laboratory which is well equipped and supervised by a highly qualified pathologist.

The first steps toward affiliation between the Hadassah Medical Organization and the Hebrew Univerity have been taken. Public health courses for physicians, in which the Hadassah staff participated as instructors, were given at the university last year. During the year 1927 a number of lectures were delivered by prominent visiting clinicians. Other forms of cooperation are under discussion, and it is hoped that a postgraduate medical faculty will be created in course of time. It is proposed to erect a university hospital in Jerusalem shortly.

The accompanying table gives a statistical picture of our activities.

Past Decade Marks Great Increase of Welfare Expenses

In 1926, the expenditures by American cities for conservation of health, sanitation and promotion of cleanliness, and for charities and hospitals, were nearly double what they were in 1916. A summary of expenditures covering 250 cities with 30,000 population or over, shows that the per capita cost in 1926 amounted to $5.79, as compared with the summary of 1916 which covered 213 cities and showed a per capita cost of $3.

These figures though, as compared with the general maintenance of the other city departments, show that the cost of promoting and executing these welfare projects represents a lower percentage. In 1916 the cost of maintaining the departments of health, sanitation, charities and hospitals, amounted to 16.1 per cent of the costs for the operation and maintenance of all general departments. In 1926 this was reduced to 14.8 per cent.

With few exceptions, in 1926 the per capita payments of the larger cities for health, sanitation and charities exceeded those of the smaller cities. The per capita payments in the larger cities (those with 500,000 population or over) amounted to $7.65, while those in the smaller cities (with a population 30,000 to 50,000) amounted only to $3.42.

How Stable Is the Superintendent's Job?

By MICHAEL M. DAVIS, Ph.D.
New York

FEW conditions are more important for success in an executive position, or better uphold the dignity of the position, than stability of tenure. In recent hospital literature we find scattered references to the subject, a rather pessimistic note being not infrequently apparent.

In the course of a study on the training of hospital superintendents that I have under way for the Rockefeller Foundation, an effort has been made to obtain definite statistics regarding the tenure of office of hospital superintendents. These, in part, will be presented in this article.

The most common method of seeking facts of this kind is to send out questionnaires. Since hospital superintendents are rather heavily dosed with such requests for information, this method of obtaining facts has been avoided not only because of sympathy for the afflicted, but also because it is difficult to draw valid conclusions from questionnaires returned in an inquiry of this particular kind. Rarely as many as 50 per cent of those receiving the questions return replies. It is true that even 20 per cent of a group may furnish a basis for drawing valid conclusions concerning the whole group, but this is only when we are sure that the samples have really been selected at random, without any external or internal bias. In a somewhat personal matter such as an inquiry regarding tenure of office, it is always doubtful whether those responding do not represent a disproportionate number of persons who because of their success are ready to narrate a bit of their life's story, or, on the other hand, an undue proportion of the dissatisfied, who gladly take advantage of an opportunity to indicate their woes.

Ten States Studied

After considering various methods of obtaining facts, the following plan was adopted. Ten states of the Union were selected: California, Georgia, Illinois, Kansas, Louisiana, Massachusetts, New York, Pennsylvania, Washington and Wyoming. These are the ten states that the Committee on the Grading of Nursing Schools has used for many of its current studies.

Recent editions of the American Medical Directory contain a full list of hospitals, with the names of their executive officers and other data. These directories appear bi-annually. The editions for the years 1921-1923-1925-1927 were brought together. The 1927 directory showed 2220 hospitals in the ten states, excluding federal, state and the so-called allied institutions. These 2220 hospitals were looked up in the three preceding directories, and the names of their superintendents were compared. Of the 2220 hospitals of 1927, 1230 were found to appear in all the three previous editions with the names of their superintendents. For these 1230 hospitals, therefore, we were able to tabulate the changes in superintendents as shown by changes in the names, for the years 1920-1921 to 1926-1927. The stability or instability of the positions is thus made known for this period.

Government Hospitals Omitted

The Hospitals of the U. S. Government and of the state governments were omitted because in the Army, Navy and Veterans' Bureau, and in the mental disease hospitals, which constitute the bulk of the state institutions, conditions of tenure are quite different from those in the rest of the hospital world. The hospitals or infirmaries that are parts of prisons, asylums or similar institutions, and which are grouped in the directory under the title "allied institutions" were left out because they also are not comparable with the majority of our medical institutions.

The 1230 hospitals for which we have facts on the tenure of the superintendents include thus more than half of all the hospitals in the ten states covered, and nearly all of the best established and most representative institutions. Of course those hospitals that have been founded since 1920, when most of the reports were made to the 1921 edition of the directory, could not be in our list. Other institutions could not be tabulated because, in one or more of the directories, their report was incomplete, not containing the superintendent's name. It may be that the less well established or more poorly managed institutions are those that are less likely to make full reports as requested by the American Medical

Association. We may have a selection of the slightly better hospitals, or the more wide-awake superintendents, in our 1230 hospitals of the ten states, but there is obviously no element of personal bias in the data, as may be the case in replies to questionnaires.

Chart I displays that among the superintendents of these 1230 hospitals, 532 or 43.3 per cent had been in their present office throughout the six years; 14.1 per cent for at least four years; 17.6 per cent for at least two years and 25 per cent for less than two years. A longer time would have been covered in this statistical study, based on the directories, had it not been that to go back of 1920 would have brought us into the period during or immediately after the World War, when the turnover of hospital executives, particularly among physician and nurse superintendents, was abnormal, for well known reasons.

The figures in Chart I might be expressed in another way, from the point of view of the hospital rather than of the superintendent. How many hospitals made no changes in their executive officers during these years? In Chart II we see that 43 per cent of the hospitals made no changes, 34.6 per cent made one change, 19 per cent made two changes, and 3.4 per cent made three changes.

Do the most rapid changes in superintendents take place in the city and county hospitals supported by taxes, and presumably more affected by politics than institutions maintained by private funds? Does a greater proportion of changes occur in the smaller hospitals than in the larger? How do the proprietary hospitals compare with charitable corporations and church hospitals? Have physician superintendents a more or a less stable tenure than laymen who are superintendents or than nurses or Sisters in similar positions? How do the ten states compare with one another? The statistics give some answers to these questions.

Physicians Most Stable Group

From Table I and from Chart III we see that physicians have a much more stable tenure than any other group. Laymen come next; nurses, Sisters and laywomen follow. Fifty-eight per cent of the hospitals having physician superintendents in 1926-27 made no change during the six years, and 29 per cent made only one change. Among the 325 hospitals with nurse superintendents in 1926-27, on the other hand, only 38 per cent had made no changes and 31 per cent but one change. Among hospitals with laymen as superintendents, 44 per cent made no changes and 33 per cent made one change. The church hospitals, with Sisters as superintendents, contrast with all others in that only one-sixth of these hospitals made no change during the six years. Sixty per cent made one change in superintendents during this time, and 24 per cent made two or three changes. It appears that the superintendents of these church hospitals are likely to be changed at certain intervals, the proportion of hospitals with no change at all during the period being very low.

How shall one interpret these figures? Are they encouraging or discouraging? With what standards shall we compare them? Is there any standard? I am not aware that statistical studies of this nature, of any extensive character, have been previously made. Questionnaires returned from hospitals in Pennsylvania a few years ago, are reported as showing a high percentage of turnover (90 per cent within five years).* Pennsylvania was one of our ten states, and 234 Pennsylvania hospitals were recorded in our review. Of the superintendents in these, 94 or 40 per cent had held office for six years or more, 123 or 52½ per cent had held office for four years or more, and only 62 or 26½ per cent had held office for less than two years.

Special Study Made in Ohio

In Ohio a special study was made because a reference to high turnover in the small hospitals in this state recently appeared (American Hospital Association Proceedings, 1927, p. 480). After checking through the four American Medical directories in the manner above described, 156 hospitals in Ohio furnished complete data. Thirty-five per cent of their superintendents had held their present posts through the whole period, 13 per cent for four years, 16 per cent for at least two and 36 per cent for less than two years. In the 31 hospitals of 25 beds or less, 16 superintendents had held their present positions for the whole six years; and in the 71 hospitals of 50 beds or less, 31 superintendents were in the same class.

Table II classifies the hospitals by size in relation to changes of superintendents. A surprisingly good figure appears in the small hospitals of 25 beds or less. Sixty-three per cent of these made no changes in their superintendents during the six years. Next come the large hospitals of over 500 beds, with 45 per cent making no change, while the medium sized hospitals (26 to 500 beds) run close together, with surprisingly little variation. The proportion of hospitals making either no change or only one change, runs nowhere lower than 74 per cent; in several groups it approaches

*Proceedings, American Hospital Association for 1927, p. 480, and for 1924, p. 485.

and in one group it even exceeds 80 per cent.

Table III compares the frequency of change in superintendent as affected by the type of hospital: municipal, county, church, charitable or proprietary. It will be observed that the variations here are considerably larger than when hospitals are compared on the basis of size. The tax-supported institutions show up better than might be expected. Comparison with the preceding table makes it evident that the reason the small hospitals in Table II show a low percentage of change is because a considerable number of them are proprietary institutions, in which the owner (usually a physician, sometimes a nurse) is also the executive officer. It should be added that there are only 150 proprietary institutions among the 1230, and that the proprietary group is not large

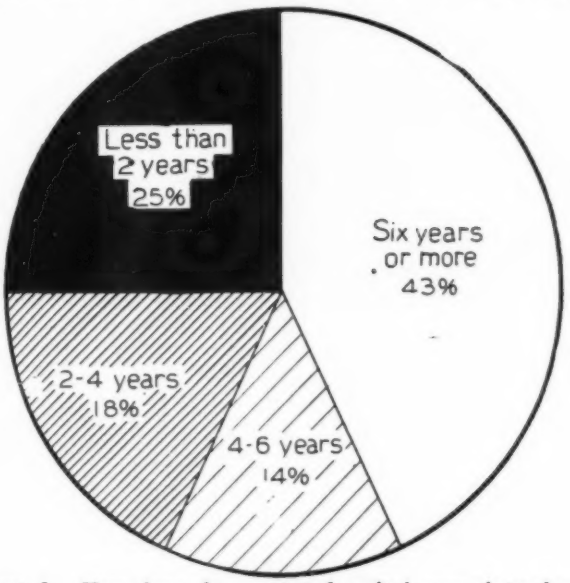


Chart I. How long have 1230 hospital superintendents held their present jobs?

enough to affect the main totals appreciably, although sufficient to affect the percentages among the small institutions taken by themselves.

A comparison of the ten states listed in Table IV indicates Louisiana and Massachusetts as the states with the most stable tenure. Out of 156 hospitals in Massachusetts, 89 per cent made no change or only one change in superintendent during the six years. Excluding Wyoming, from which only ten hospitals are recorded, Kansas and Washington show the lowest figures (68 per cent and 71 per cent respectively), most of the other states ranging close to the average for the whole group—78 per cent.

For purposes of comparison with the 1230 hospitals from the ten states, a special tabulation was made of 500 selected hospitals that have been approved for internship by the American Medical Association. The two groups of course overlap somewhat, but the approved hospitals differ considerably from the large body, practically none of less than 100 beds being included, and no proprietary institutions. The proportion of church hospitals, with Sisters in charge, is 24 per cent, or more than double that among the

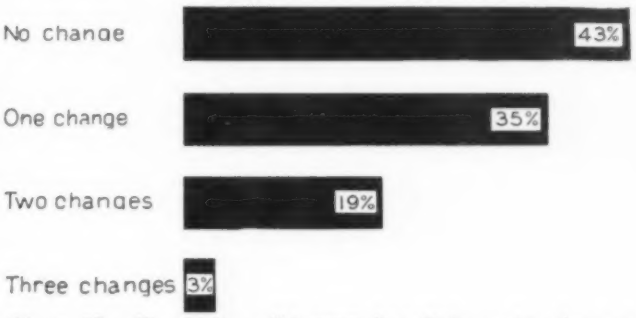


Chart II. How often did 1230 hospitals make changes in their superintendents during 1920-1926?

1230 hospitals. The proportion of physician superintendents is lower among the approved hospitals, chiefly because of the larger number of church institutions; the proportion of laymen superintendents is slightly higher, while that of the nurse superintendents is smaller. Among the 1230 hospitals in the ten states, 44 per cent made no change in superintendent during the six years, while in the 500 intern hospitals the corresponding percentage was only 33. We may attribute this difference chiefly to the larger proportion of Sisters as superintendents in the intern group. If we take the hospitals that made no change or only one change in superintendent, we find the two groups are practically the same—79 per cent

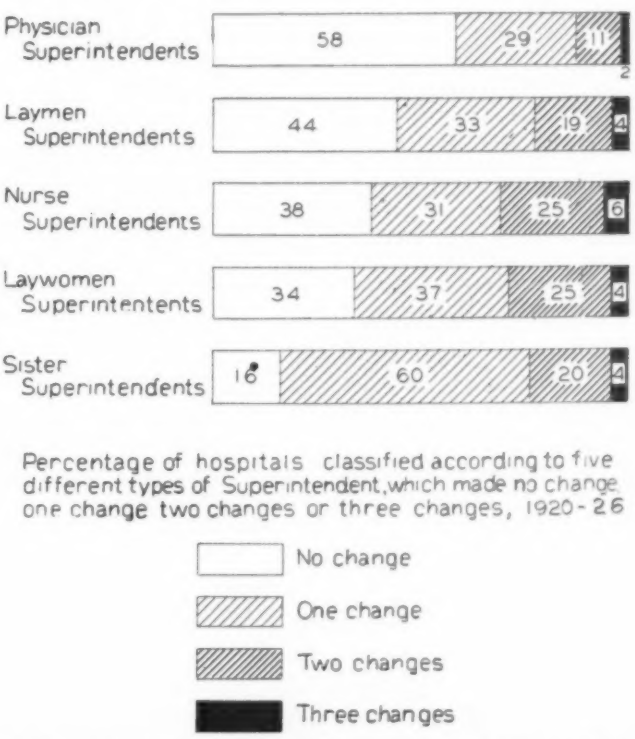


Chart III. Physicians, laymen, nurses, sisters: Who stay longest as superintendents?

TABLE I
Tenure of Office of Various Types of Superintendents in 1,230 Hospitals
Number of Changes in Superintendent Made by Hospital, 1920-26

Type of Superintendent in 1926-27	No change		1		2		3		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Physician	230	58	114	29	46	11	8	2	398	100
Layman	117	44	88	33	50	19	11	5	266	100
Nurse	126	38	103	31	83	25	13	6	325	100
Sister	22	16	80	61	27	20	3	3	132	100
Laywoman	37	34	41	37	27	25	4	4	109	100
Totals	532	43	426	35	233	19	39	3	1230	100

for the 1230 hospitals and 78 per cent for the intern hospitals.

A comparison of the physician superintendents in the 1230 hospitals and the intern hospitals, shows that only 35 per cent of the intern hospitals with physician superintendents made no change, while the corresponding figure for the 1230 hospitals was 58 per cent. Seventy-seven per cent of the intern hospitals with physicians as superintendents made no change or only one change, while 87 per cent of the 1230 hospitals with physicians as superintendents were in this most stable group.

That the 500 approved hospitals manifest this distinct difference in turnover as compared with the larger and less selected group, is shown, on special analysis, to be due to (1) the larger proportion (in the internship group) of church hospitals, many of which apparently shift their superintendents about once during a six-year period, and (2) the inclusion of some proprietary institutions in the ten-state group, which tends to raise the percentages of stability.

Through the kind cooperation of May Ayres Burgess, director of the studies of the Commitee on Grading of Nursing Schools, New York, an additional body of facts has been secured concerning the nurse superintendents. Doctor Burgess' questionnaires were returned by 274 nurses who are superintendents of hospitals, and from 518 additional nurses who are both superintendents of hospitals and also heads of schools of nursing. These 792 women constitute slightly more than half of all the nurse superintendents in the United States.

Of these nurse superintendents, 62 per cent had held their present positions for less than six years, 21 per cent between six and ten years, 13 per cent between ten and twenty years and nearly 4 per cent for over twenty years. The nurse superintendents fall, however, into two distinct groups, those who are the superintendents of hospitals and at the same time directresses of training schools, those who are superintendents of hospitals only, with other persons as the heads of the schools. Those nurses who have both the training school and the hospital in their charge are, on the average, in smaller institutions than the other nurse superintendents. Seventy-three per cent of the R.N. superintendents of both hospitals and training schools are in hospitals with an average of less than 50 patients, while only 50 per cent of the R.N. superintendents are in this small hospital group. Only 5 per cent of the nurses who had both hospital and training school in charge are in hospitals with more than 100 patients, while 22 per cent of the other nurse superintendents are in these larger hospitals. Of

TABLE II
Change in Superintendents, Correlated With Size of Hospitals
Number of Changes in Superintendent, 1920-26

Number of Beds in Hospital	0		1		2		3		Total Hospitals	
	No.	%	No.	%	No.	%	No.	%	No.	%
1–25	111	63	37	21	26	14.7	3	1.3	177	100
26–50	102	42	83	34.4	44	18.2	13	5.4	242	100
51–100	139	40.5	120	35	74	21.5	11	3	344	100
101-200	108	40	100	37.4	51	19	10	3.6	269	100
201–500	58	34.8	74	44.3	34	20.4	1	.5	167	100
Sub-total, 26-500 beds	407	40	377	37	203	20	35	3	1022	100
500+	14	45	12	38.8	4	13	1	3.2	31	100
Grand Total	532	43	426	34.6	233	19	39	3.4	1230	100

TABLE III
Changes in Superintendents Correlated With Organization Type of Hospital
Number of Changes in Superintendent, 1920-26

Organization Type of Hospital	0		1		2		3		Total Hospitals	
	No.	%	No.	%	No.	%	No.	%	No.	%
City	40	38.5	38	37	25	24	1	0.5	104	100
County	35	37.5	45	48.5	10	10.8	3	3.2	93	100
City and County	2	25	4	50	2	25	..	...	8	100
Church	40	24	91	54	33	19.5	4	2.5	168	100
Charitable Corporation	94	39.5	73	30.7	57	24	14	5.8	238	100
Industrial	12	46.5	8	30.8	4	15.5	2	7.2	26	100
Sub-total	223	35	259	40.6	131	20.5	24	3.9	637	100
Proprietary	111	74	25	16.6	12	8	2	1.4	150	100
Unspecified	198	45	142	32	90	20.2	13	2.8	443	100
Grand Total	532	43	426	34.6	233	19	39	3.4	1,230	100

all nurse superintendents together, 65 per cent, or almost two thirds, are in hospitals reporting an average of fifty patients or less.

With these points in mind, it is interesting to learn that 44½ per cent of the R.N. superintendents have held their present positions for six years or more, that 22 per cent have held them for over ten years and 5 per cent for over twenty years. The nurses who have both hospital and training school in charge show a shorter tenure, two-thirds (instead of 55 per cent) less than six years, and only 13½ per cent over ten years.

What Causes Turnover

It would be pleasant to pass from the realm of statistics to that of inference and imagination. What makes the tenure of hospital superintendents long or short? Figures fail us there, but among the causes for brief and shifting tenures might obviously be set down the changing ideas or changing personnel of boards of trustees, their lack of appreciation of the desirable status and qualifications of a hospial executive; the ups and downs of politics as affecting appointments and tenure of office in tax-supported hospitals; lack of sufficient training or ability on the part of superintendents to exercise their responsibilities adequately; ambition and ability, on the other hand, which lead men and women to move to larger positions in the hospital field or elsewhere; considerations of general policy, which in church and other national organizations supporting a number of hospitals cause the deliberate transfer of superintendents from one post to another.

Of course, stability in office has its negative side. Long tenure is only desirable when the man measures up to the job, and the job to the man, and when this happy state of affairs does not cease to exist as the years go on.

Other elements than stable tenure also enter into the attractiveness and opportunities of the superintendent's job—salary; relationship to the governing body; opportunity for family and social life and for stimulating professional and public associations. For some of these aspects of the superintendent's work, data have been collected which may be published later.

With what other vocations can we compare the facts of tenure of office of hospital superintendents? During the last fifty years while the population of the United States has grown less than three times, hospitals have multiplied in number more than thirty times. This growth in the number of positions has been accompanied by an astonishing increase in the complexity, cost and public relations of hospitals, bringing far heavier demands upon hospital executives, and the further result that the qualifications and effectiveness of

TABLE IV
Tenure of Office of Superintendents Compared by States
Number of Changes During Period of 1920-26

States	0	1	2	3	Totals
California	72	50	26	5	153
Georgia	22	11	8	1	42
Illinois	68	73	34	7	182
Kansas	19	23	17	3	62
Louisiana	11	14	2	–	27
Massachusetts	91	48	16	1	156
New York	129	104	61	9	303
Pennsylvania	94	80	51	9	234
Washington	20	23	15	3	61
Wyoming	6	..	3	1	10
Total	532	426	233	39	1,230

these executives become matters of public concern because of the importance of the hospital to the health and well-being of every community. Is the position of superintendent more stable than that of the city health officer, the superintendent of a municipal school system, the clergyman of a church, the legal adviser of a corporation, or the executive, general or departmental, in a business enterprise large or small? For such comparisons there are lacking both statistics and also any as-

surance that a statistical comparison, even if made, would mean much to hospital superintendents.

On one point, at least, we may have confidence. Figures that show that of over twelve hundred hospitals in ten states, nearly half made no change in their superintendent at least during six years, and that only 22 per cent made more than one change during that same period, do not offer any grounds for pessimism. Whether we are satisfied or dissatisfied with the situation as it exists is likely to depend more on our feelings than on statistics that we read; to be affected largely by our standards of comparison, perhaps by our personal experiences. Our figures here given are not presented with any argument in mind, but as information, and are probably most significant because they invite specific study of whys and wherefores, of the qualifications for hospital superintendents that are implicitly or explicitly set by employing bodies, and the training and qualities that are possessed by those who seek executive positions in the hospital field.

Teaching in a Nonteaching Hospital

In a paper presented before the Annual Congress on Medical Education, Medical Licensure and Hospitals, John E. Ransom, superintendent, Toledo Hospital, Toledo, Ohio, said:

"There is no nonteaching hospital. Many hospitals have a definite and important part in the teaching of medical students, interns, staff physicians, nurses, social workers, dietitians, and laboratory technicians. Others teach only incidentally. Of the 7,000 or more hospitals in the United States, only about one-third have some part in the education of medical students or nurses and 316 are engaged in undergraduate medical teaching."

Although the main duty of any hospital is to render adequate and satisfactory service to the patient, some provision must be made for keeping the staff abreast of the developments in the medical field and for improving their abilities and skill.

In order to encourage investigative work on the part of its staff, a hospital must first have a well trained, full-time pathologist who is interested in investigative work and who is willing and able to develop staff interest in such activities. The hospital administration must be sympathetic toward this kind of work, and the board of trustees must be active in the promotion of staff perfection. It must have sufficient faith in the value of such endeavor on the part of the hospital to see that the necessary funds are available for carrying out such work.

The following paragraphs from Mr. Ransom's paper will show the progress that has been made by the Toledo Hospital, a 128-bed institution, which has no medical school but which has been approved by the Council on Medical Education and Hospitals, for the training of interns, and is accredited by the American College of Surgeons. About 80 per cent of its patients are the private patients of the members of its staff and the resident physicians of Toledo:

"After considerable searching, we secured such a pathologist as has already been described. Without great difficulty we secured a room that could be used for animal surgery, and a little money with which to equip it. At a small expense we were able to provide quarters for dogs and other laboratory animals in one of the out-buildings. The sheriff of the county has provided us with dogs, and the purchase of other animals has not been a great burden.

Results Are Gratifying

"Some members of the staff were interested from the first, and began work in collaboration with the pathologist. During the first year, six members of the staff have carried on investigative work; others have asked for an opportunity to do so as soon as they can be accommodated. There have been two outstanding results. Appreciating the facilities which the hospital provides and its willingness to do what it can to promote such work, one of the members of the staff is undertaking a piece of work that will entail the full-time work of a trained technician for a period of at least two years. He is providing the salary of this worker, the hospital is providing her maintenance, and our pathologist, the supervision of her work. This work started on the first of February this year.

"The other result is this. We were planning an entirely new hospital plant at the time this program was launched. Space had already been allotted to the clinical laboratories, but so interested in the possibilities and values of investigative work had some of the influential members of our staff become, that they convinced our board of trustees that special provisions should be made for this work. The outcome has been that an entire floor has been added to one of our buildings to house a research department. The space that will be available will approximate 6,000 square feet, and it and the equipment will add between $40,000 and $50,000 to the building cost.

"We are developing a library of well selected books and journals. The necessary funds come in part from our staff dues. The superintendent's secretary devotes part of her time to the library. Her services are available to any member of the staff in assembling material on any subject in which he may be interested. We have had several instances during the past year in which this service has been of considerable value in the care of the patients in the hospital. Exchange relationships with other medical libraries have made available books for which there may be a demand and which our library does not possess.

"This library program has called for special facilities in our new plant. Ample quarters have been provided for book stacks, periodical racks and a reading room. Adjacent to the library will be the hospital museum."

Must We Guard Our Garbage?

Perhaps the most unusual theft in the history of hospitals recently took place in a Philadelphia hospital.

The superintendent of the hospital has a contract with a farmer who collects the food garbage each morning which is carted away and fed to his pigs. The other morning when the farmer arrived he found that the entire lot of garbage had been stolen by a rival pig raiser and he reported the theft to the police.

Steps were immediately taken to guard the garbage in the future by lock and key, and if necessary a day and night special police will be put on the premises to see that a similar theft does not occur.

STUDIES ON HOSPITAL PROCEDURES

The Hospital at Night

A GREAT contrast is presented between the appearance of the daytime hospital and that of the same institution at night. During the daytime, the hospital bristles with activity, its corridors are filled with busy persons hurrying here and there, its offices resound with the click of the typewriter, its operating room personnel is actively at work in an endeavor to carry out efficiently the surgical work scheduled for the day. Wherever one looks, a scene of businesslike activity meets the eye.

But what a different picture is presented by the quiet halls, the comparatively few visitors and the quietly treading doctors and nurses on the wards of the nighttime institution. In the wards and rooms, Somnus, son of the Night, has brought peace and forgetfulness to many of the patients there. As one steps within the door, the midnight hush is broken but occasionally by the uneasy stirring of a postoperative patient here, or the suppressed moan of another to whom sleep will not come.

The contrast is so great that even an experienced person sometimes wonders whether the institution which he beheld at 9 a. m. is identical with that which he observes at 9 p. m. But the work of caring for patients must go on, and while, when nighttime comes there is a cessation of the almost feverish activitiy of the day, the same number of patients must be cared for, and hence the organization of the nighttime hospital must be just as efficient and as cohesive as that which functions during the day.

Fortunately, most hospitals are so located that the problem of maintaining quiet from without is not a difficult one. It is unfortunate if manufactories are situated nearby, but happily their wheels usually cease turning before night falls. If railroad tracks are near the institution, even though trains are less in number at night, to the sick person, they still seem to be passing incessantly. Street cars in cities are a source of great annoyance of hospital patients. Traction companies should be required to maintain rail joints in proper condition so that little jarring and noise are caused by passing trolleys. Odors from chemical works and other manufactories are disturbing to the sick, but city and state laws usually prohibit such public nuisances. The inordinate blowing of automobile horns, and the conglomeration of city street noises, which consist of a wonderful yet fearful mixture of human voices, radio music, and jangling street car bells, can make the life of the hospital patient almost unendurable.

If hospitals, as a group, demand that the observance of quiet zone regulations be enforced even to the extent of requiring police protection against unthinking offenders, they will be likely to attract the attention of official ears. Hospital authorities in most instances receive sympathetic support from governmental bodies in reducing the noise and smoke nuisance to a minimum level.

Silencing Devices Are Important

From intra-hospital sources, deterrents to sleep are, however, more easily controlled. In the construction of modern hospitals, careful attention is given to the question of soundproofing. The floors of corridors are often of rubber, linoleum or some other similar substance. Doors are equipped with pneumatic or hydraulic checks. Delivery and labor rooms are constructed with cork or cinder block walls. Double doors and windows are often used. The noise and confusion of kitchens and dining rooms are confined by the adoption of soundproofing principles. The members of the hospital personnel are enjoined to wear rubber heels. Efficient hospital administration requires that the members of the hospital family be impressed with the necessity, the fairness, of speaking and walking softly. Not only during the night, but during the day as well, frivolity of any sort on the part of visitors or of hospital workers, should be discouraged. Nurses' and doctors' homes should be placed at such a distance from the hospital wards and rooms that the lighthearted recreation of these young men and women during their hours off duty will not endanger the patients' comfort.

Most hospitals require that at 9 p. m. all lights shall be extinguished, except those in wards and rooms where physicians and nurses are actually at work. The installation of a proper system of night lights, which will make possible the illumination of a portion of a ward so that a nurse or a physician may care for an individual patient without disturbing the rest—lights that illumine the floors without their rays directly reaching the level of the patient's eye—is a practical measure to which consideration should be given during building. Numerous and conveniently placed electric sockets for the use of drop lights, are useful.

One of the dangers that continually confront the hospital and its patients is that of fire. Hence a well worked out patrol system should be instituted, not only from the standpoint of safeguarding the patient's life from fire, but also to protect the hospital during the night against trespassers and others who are defiant toward institutional rules. Almost every hospital posseses some type of night watchman system, because it is generally thought wise not to depend wholly upon the honesty and diligence of any watchman, but to supplement these qualitites which unquestionably frequently exist, by some sort of mechanical system by which businesslike records of the efficiency of the night patrol can be secured.

Methods of Fire Prevention

To this end, boxes or stations are located throughout the institution in places which are thought to present either the greatest danger from the standpoint of fire, or which are so situated that to reach them, the watchman must pass through all parts of the hospital. Attached thereto, is a key fitting the clock that the watchman carries, and which, when punched, registers the hour at which the box is visited. This so-called time clock system is perhaps one of the oldest of such systems and perhaps one of the least efficient. Notwithstanding this fact, many institutions place their reliance upon this method of registering the visits of the night watchman.

In other newer institutions, particularly those of size, a more complicated electrical system is often found. In this type of installation, the watchman carries a key with which he registers his visits to the stations that are located about the hospital. The record of this visit is transmitted electrically to some distant point which is usually the institution's office. This system is perhaps more efficient and less easily circumvented, and although it is somewhat expensive to install, it is though by many to be very much worth while.

Whichever system is employed, the records thus obtained not only are useful in determining the degree to which the hospital is being patrolled at night, but also in case of fire, they definitely demonstrate that the hospital has done everything within its power to prevent injury to its patients.

The organization of the hospital's personnel in the nighttime hospital is of the greatest importance. There is usually existent the title of "night superintendent" which is assigned to some competent nurse who is responsible in a general way for the hospital during the night. She is answerable to the superintendent of nurses, who, in turn, reports to the hospital executive. The night superintendent of nurses should be a woman capable of independent action, who possesses qualities of fidelity to duty, good judgment, common sense, and above all, has considerable practical knowledge of the signs and symptoms of disease. Her assistants as well as the pupil nurses generally, report to her.

Special duty nurses employed on the private floor of the hospital, are also under the supervision of the night superintendent of nurses. Specifically, she is responsible for the conduct of the night nursing of all of the hospital's patients, and generally, for the morale of the whole institution from 7 p.m. to 7 a.m. It is the night superintendent who must first act in an emergency, such as fire, an accident of any magnitude, or cases ot minor or major infractions of the hospital rules by any member of the hospital's personnel. She receives the routine report of the condition of patients from the day nursing force as well as any special cautions or instructions relative to individual patients who are critically ill.

The night report is usually made more or less of a formal function, and consists in reality, of a receipt by the night superintendent and her assistants of the patients of the whole hospital, who are turned over to her care for the next twelve hours. She is responsible for the enforcement of rules relative to the time of extinguishing lights, for the control of visitors, for the calling of physicians when patients become critically ill and for the ordering of the preparation of the operating room for emergency night operations. It is to her that all night nurses answer, and it is her responsibility to see that all report promptly for duty and that the work of carrying out the physician's orders is promptly and efficiently performed.

Night Nurse Has Long Hours

There is much discussion, nowadays, in regard to the wisdom of requiring pupil nurses to work from 7 p. m. to 7 a. m. with but a short off duty period for the purpose of securing their night dinners. In some institutions, the daily rest period which is granted day nurses, is given night nurses in the aggregate at the conclusion of their tour of duty. In others, night nurses who do not report until 9 p. m., are allowed one-half hour for supper, and continue at work until 7 a. m.

To the night staff is assigned not only the carrying out of routine orders, but also the serving of patients' breakfasts, and the performance of ward patients' morning toilets. The world awaits to acclaim the man or woman who will devise a system that will obviate awakening ward patients at 6 a. m. in order to enable the night nurse to bathe and feed them before she goes off duty an hour later.

There are not a few practical aspects to the night tour of duty that are of importance to the hospital and to its nursing staff. It has been found that pupil nurses, particularly, rarely are physically as well at the conclusion of a tour of night duty as are those who work during the day. There are several reasons for this. Strict rules must exist that require night nurses to be in bed by 9 a.m., and that prevent them from arising during the day in order to attend social functions or to make visits to the theater. It is to the interest of the hospital, as well as to the interest of the nurse, that she keep physically fit. Many superintendents of nurses find it difficult to enforce this rule.

Nurses Must Take Adequate Rest

It is not humanly possible for a nurse who does not secure sufficient rest during the day, to remain awake at night. The sin of going to sleep on duty often has as its basis, a defiance of the rule requiring that the nurse secure an adequate amount of sleep during the day. It is unfortunate from the standpoint of the nurse's health that she is so often required to lose rest in order to attend afternoon classes. Again, it is sometimes impossible for the nurse to secure adequate sleep during the day because of a difficulty in becoming accustomed to this reversal of the natural order of things. Superintendents of nurses are continually on the alert to detect loss of weight and signs of excessive fatigue, in order that the health of the nurse may be safeguarded during her tour of night duty.

There are some interesting aspects concerned with the work of the night nurse on the private floor. The time was when the nurse in charge of a patient not critically ill, secured sufficient sleep in the patient's room after her charge had been prepared for the night. In some localities this custom is still followed. It is not, however, considered either a wise or a professional practice, when only an eight-hour tour of duty is required, for a nurse to adopt this means of securing rest. When nurses are permitted to serve throughout the twenty-four hours, it may, however, be necessary for some such provision to be made.

In the preparation of the duty sheet for interns, several systems for the medical care of patients at night are in use. In smaller institutions, the intern is on twenty-four hour duty, not being permitted any definite nights away from the hospital. Before the intern leaves the institution, he secures one of his colleagues to answer for him and registers this fact in some place accessible to the night superintendent. In other institutions, a slip containing the night schedule for interns, is placed in the hands of this official before 7 p. m.

In larger institutions the "night intern system" is often in use. This consists of the assignment of interns in rotation to the position of night intern, whose duties consist of admitting all new patients, prescribing emergency treatment, pronouncing all deaths, and being, in general, the medical officer of the night. This plan has much to recommend it, yet there are possibilities for its abuse. For example, interns may unwisely consider that they are performing a favor for their colleagues if they undertake the treatment of patients throughout the hospital in order to prevent the intern in charge from being disturbed. This is not a good practice. The night intern should not be permitted to treat patients on services other than his own, except in a case of emergency, and when patients are admitted it is he who decides whether the ward physician on duty should be called. In some hospitals, a colored slip setting forth the fact that the intern on duty should be called at once, accompanies the patient to the ward, and the night superintendent is thus informed that the patient requires the immediate presence of the ward physician.

Occasionally it is felt that interns should not be permitted to visit their own wards after 7 p. m., and that all treatment necessary during the night should be prescribed by the night physician in charge. This is a pernicious system, and implies a lack of confidence on the part of the hospital executive in the proper professional conduct of doctors and nurses when they are not under close supervision. Fortunately, such fears are not usually justified by facts.

Night Order Systems Vary

There are various systems in use for the writing of night orders. In some hospitals, there is no variance between the plan employed during the day and that used during the night. In others, the "night order book" system exists. The chief recommendation for this scheme is that when a shortage of nurses exists, there is a saving of time in learning what orders are to be filled, and to whom the drug is to be given. Hence, while having all the ward night orders in one book appears to simplify the nurse's work, this plan has only this virtue to recommend it.

It may be noted here, in passing, that interns should not be permitted to visit their wards at night, unless fully dressed. The practice which is followed in some localities, of permitting doctors to attend patients during the night when attired only in bath robe and slippers, should be strongly discouraged.

The technique of admitting patients at night is often inefficient and cumbersome. In small hospitals, many times it is impossible to secure the

services of a physician without what appears to the patient and to his relatives to be an interminable wait. The physician must often be called from his bed, and must dress before responding to this summons. In such institutions, this difficulty might be obviated by requiring that a definite intern, occupying a room adjoining the receiving ward, be on call during the night. This plan often is followed in a maternity hospital where night calls are more frequent.

The question of whether or not a ward intern should be called to attend each patient after he is admitted, must lie largely in the hands of the night intern, or in the absence of such an officer, in the hands of the night superintendent of nurses. Interns are likely to object to such night calls unless, upon reaching the ward, they find a real emergency existing. In some institutions, the intern on duty is notified of every admission to his service which occurs before twelve midnight, whether the patient is seriously ill or not.

Whatever system is employed, nothing so quickly creates confidence in the minds of the patient and his relatives, as a prompt visit and the immediate initiation of treatment, even though the latter be of but a trivial nature.

Night Care of Critically Ill

Attention to the proper treatment of the critically ill during the night, is of the greatest importance. Sometimes in the early evening, or during the night, a patient's condition becomes less favorable, and the night superintendent of nurses, noticing this fact, notifies the intern as to what has taken place. Upon examination of the patient, the intern may not be certain that immediate danger to the patient's life is imminent, and may feel inclined to delay notifying the family until daylight arrives. To adopt this plan is both humane and thoughtful of the feelings of others, providing the patient's condition does not require an earlier visit from his relatives. On the other hand, it would be far better to fail to spare the feelings of the well, than to delay too long in securing the presence of relatives in the hospital. Sometimes information as to the critical state of the patient must be given over the telephone, and not infrequently the services of the local police are required to deliver this notification, because no messenger service is available at the hospital during the night.

It has been repeatedly observed that the condition of critically ill patients seems to be at its lowest ebb in the early morning, and indeed, death often occurs just before daylight. In hospitals that are equipped with rooms for the isolation of the critically ill, the occurrence of a death at night, need not disturb or alarm other patients, since the critically ill man or woman is usually removed from the ward before night sets in.

When death does occur, the presence of the night or ward intern is immediately required. The steps then taken, having been recently enumerated in THE MODERN HOSPITAL do not here require repetition. It need only be said that after death has been pronounced by the intern, the preparation and removal of the body from the ward should be done with the least possible offense to those near by who are ill.

Late Visiting Hours a Mistake

Control of visitors at night is not an easy problem. Critically ill patients, of course, are permitted visitors at any hour. The passing of visitors through hospital corridors is in no small degree disturbing to the institution's patients. Most hospital executives feel that, if possible, visitors should be prohibited at night, and if they are allowed to enter the hospital, they should leave promptly a considerable time before that set for the extinguishing of lights.

Perhaps one of the most difficult problems that presents itself in the nighttime hospital, is the provision of facilities for the prompt performance of laboratory and x-ray work. To secure prompt information of this type when it is needed is most necessary, but because of the relative infrequency of the demand for such studies at night, the maintenance of continuous service in these laboratories, is difficult. In some institutions, a regular schedule of laboratory assignments is worked out, and an x-ray technician is required to be continually at hand. Nothing is more exasperating to the surgeon or his assistants than to be required to endure inordinate delays in promptly securing this type of information, particularly if an emergency operation is thought to be necessary. Sometimes the physician in charge of the x-ray department lives near enough to the hospital so that his services can be promptly secured. On the other hand, to rely on the presence of one individual, is often to bring about a harmful delay in securing the examination needed. There should be, within the hospital itself, a person sufficiently trained so that he is capable of performing emergency x-ray, chemical, pathological and even serological work on short notice.

A more or less minor problem, yet one that often annoys hospital executives, is the proper supervision of the night supper. This function usually takes place between 11 and 12 p. m. The question has repeatedly arisen as to whether interns and nurses who are not on night duty, shall be permitted to share this meal. It is the concensus

of opinion that only night nurses and interns who have been actually called for duty during the night, should be permitted to partake of the night supper. Whether this meal should be of the same proportions as the dinner served the hospital personnel, is a matter for solution by the individual hospital.

It is during the night that surgical, gynecological and obstetrical technique is most often carelessly followed. The supervision of night deliveries should be no less stringent than those taking place during the day. The gowning of visitors should be carried out as in the daytime, and the strict observance of all aseptic precautions is of the highest importance.

Who Shall Authorize Night Operations?

It has been said that night operations are the scientific salvation of the young surgeon. It is feared that then operations are more likely to be denominated as "emergency" than during the day. For this reason, the surgical staff as well as the hospital executive should carefully scrutinize the necessity for frequent night operations, and should reprove those who are inclined to take advantage of this opportunity to add to their surgical experience. It can be said without contradiction that patients who submit to a so-called emergency procedure, are less likely to be as thoroughly studied and as carefully prepared as those whose operation is approached in a more leisurely manner. Permission for the calling of the operating room nurse, and the declaration of an operation as an "emergency" should rest in the hands of some resident administrative officer who has received his information from the surgeon himself. In the absence of such an official, the night superintendent often times receives her orders direct from the surgeon or his assistant.

There should be no cancellation of regulations concerning the recording of the physical examination of the patient, the securing of a urinalysis or a blood count, if such are indicated, even though a considerable delay ensues and the surgeon loses sleep thereby. This statement, of course, does not refer to emergency procedures.

Cleaning May Be Done at Night

Many institutions have adopted the practice of cleaning corridors and administration building lobbies at night. There is no reason why such a system, which is found satisfactory in apartment houses and hotels, should not successfully apply to the hospital. Electrically driven scrubbing machines and other noise producing processes should be of course eliminated.

Many hospital executives have adopted the plan of from time to time making complete rounds of the institution at night. This scheme has a beneficial effect on the morale of the hospital, since nurses, physicians and others may learn to expect such an inspection at irregular hours. From the standpoint of the superintendent himself, he may learn much concerning the conduct of his institution during that period. No hospital can be efficient twelve hours of the day and inefficient the remaining twelve, and at the same time perform the type of work that its patients deserve.

How to Buy Cleansing Agents

A knowledge of soaps, cleaning and scouring agents, their composition, uses and effects are essential to the efficient household manager, said Carolyn E. Davis, superintendent, Minor Hospital, Seattle, Wash., in an address to the American Protestant Hospital Association. In continuing she said, "The household manager will know whether to use an acid, alkali or neutral product, and the amount needed for the specific piece of work in hand to obtain the best results. Common soap, while probably the most important cleaning material, is the most dangerous and wasteful. The housekeeper must know the elements it contains in order to know the effect of the soap upon the different surfaces with which it is brought in contact. A well seasoned soap will prove the most satisfactory. No one cleaner will effectively clean all types of surfaces, but it is easy to supply adulteration where it is needed."

Miss Davis advised that the purchase price of cleaning materials is a dangerous guide for the buyer. A study of the quantity needed, plus labor effort, and the appearance of the finished product should determine whether the cheaper or the more expensive cleaner will prove the cheaper for the year's work.

Hospitals Have Many Duties

The advancement of medical knowledge in a teaching hospital is secondary only to the proper care of the sick. Provisions must be made for classes in medicine, research and investigative work, and the promotion in every way possible of the study of modern medicine. Where teaching is not one of the primary functions of a hospital, it is at least an important one, for laboratory technicians, nurses and attendants must all receive a certain amount of training, no matter what size the hospital may be. It is obvious therefore that a hospital, in order to meet these requirements, must be completely, modernly and adequately equipped.

The trustees of a hospital must be made to realize the importance and value of postmortem examinations. In referring to the importance of this subject, it is appropriate to quote from an article in a recent issue of the *New England Journal of Medicine* as follows:

"Not only may our knowledge be advanced in this manner, but there is nothing that makes for greater care on the part of the physician or surgeon than the certainty that in case of death his work is to be reviewed and checked. Furthermore, in the matter of autopsies, it is the duty of the trustees of hospitals to aid in dispelling the rapidly diminishing opposition on the part of certain members of the public to these examinations."

Editorials

After Fifteen Years

IN THE lives of men and journalism, fifteen years is not a long time. Considered in the light of the progress of the field of hospital medicine, the decade and a half just closed is an era, because during that period greater advances in the care and treatment of the sick have been made than in any previous century.

The birth of THE MODERN HOSPITAL, which has just completed fifteen years of service, synchronizes with the beginning of that epoch. It was created to meet a necessity, the obligations of which it has zealously endeavored to fulfill. In the beginning, it was an experiment; now it is a definite institution discharging to the best of its ability the functions with which it has been invested by the hospital field. In this it has had the whole-hearted cooperation and assistance of those whom it serves and thus it has been able to contact its clientele with the thought and inspiration of the best minds engaged in hospital construction, equipment and operation. Thus it has been possible to bring the latest and best to those who read THE MODERN HOSPITAL, to stimulate research and to give added impetus to worthy movements having for their ultimate goal more and better hospitals.

The fifteen years just closed have been fruitful ones. In the accomplishment of its ideals standards have not been lowered; on the contrary, they have constantly risen toward greater heights of education and inspiration. The hospital field has never failed to respond to these, and THE MODERN HOSPITAL is a mirror reflecting the thought and aspirations of those who labor in hospital and factory for those under the distress of sickness.

Rich as has been the harvest of accomplishment in the three demi-decades just closed, it may safely be prophesied that even greater forward strides will be made in the days ahead. The seven-league boots of science are treading many new paths. More and more the care of the sick is being put upon the basis of greater accuracy, higher efficiency and wider and more practical sympathy. With this change come new methods, new apparatus, new administrative procedures, to meet which, scientists, administrators and manufacturers must cooperate with broad intelligence and achieving zeal. The hospital must be put within the economic reach of every American; its humanity must be widened and it must assume broader functions in the prevention as well as in the remediation of disease.

THE MODERN HOSPITAL has, as its cornerstone, service—service to those who conduct and labor in the hospital and health field, to those who supply that field with its manifold necessities and, above all, to those deranged in body and in mind, in need of cure, alleviation and protection. In the performance of its self-elected duties, it bespeaks the continued cooperation and constructive criticism of those who also serve in the glorious mission of the salvation and preservation of human bodies.

Women in Hospital Work

CLOSELY intertwined with the fine traditions upon which rests the calling of those who today profess unselfishly to devote themselves to the care of the sick, are the names of many self-sacrificing women. Their deeds run like a golden thread through those pages of history that depict the blind, ofttimes apparently purposeless plodding, from the scientific darkness of ages past into the light of today.

Compassion for the unfortunate, forgetfulness of self, bravery in the face of overwhelming odds, initiative and resourcefulness, were qualities possessed in abundance by these medical and nursing pioneers. Today, women play no minor part in the care of the twenty million sick whom the country's hospitals annually serve in some major or minor way.

Even a casual inspection of the last hospital survey of the American Medical Association quickly reveals the fact that the administrative reins of many of the country's hospitals are in the capable hands of women executives. That qualities of leadership, untiring devotion to duty and effective business acumen are possessed by many women in hospital positions, is an accepted fact. But the training that the nurse receives in no greater measure fits her to administer a hospital efficiently, than does the possession of a medical degree guarantee that a physician is capable of becoming a successful institutional superintendent. Each may possess a medico-social viewpoint, which is useful in the conduct of a hospital but which represents only one of many essential qualities.

The contribution of women administrators to the hospital field is not complete, even though they conduct institutions that are models of efficiency, until they, as a group, take a more active part in the programs and the discussions of their state and national associations. That a feeling of

class isolation comes to the woman executive when she glances at the program of a coming convention, is not surprising. But ofttimes, the difficulty lies in the impossibility of securing women speakers rather than in man's desire to usurp a place of prominence.

To give generously and willingly from the storehouse of one's experience—one's inspiration—is the duty of all workers in the hospital field.

The Cost of Medical Care

MEDICAL care is a commodity of varied and varying dimensions. Any attempt to do more than approximate its unit cost, or to measure the actual effective value of an individual's outlay of money for such a service to himself or his family, must present difficulties of such magnitude as to give pause to the most optimistic. Yet a glance at the personnel of the recently formed Committee on the Cost of Medical Care must hearten even those of the most gloomy habit.

To form any worth while judgment as to whether the expense due to sickness is unjust to any class of society, the committee must diligently examine the records covering the health experiences of a representative cross section of each economic stratum of the nation's population. To decide whether the fees of doctors, dentists or nurses are unreasonable, it must learn not only the average incomes of members of these groups, but must also gain some conception of the quality of service that is returned for the monies received.

Furthermore, there must be taken into consideration such factors as the current cost of medical and nursing education, as well as the necessary expenses incident to twentieth century professional and private living and working. If a disproportion is found between the income of the average individual and the legitimate and just fees of the physician, nurse and hospital, then it appears that but three remedies suggest themselves: the prevention of sickness, the provision of a grade of medical care less expensive yet adequate to the average type of illness, or of some form of administrative or economic reorganization of the present system.

The committee has spared itself not at all. It proposes to attempt to learn more as to why men and women become ill, and discover if possible what proportion of those who sicken and require institutional treatment, are hospitalized. To some, the initiation of such a study appears as an acknowledgement on the part of the medical and administrative groups concerned, that something is radically wrong either with their professional ethics or with their economic fair dealing—a defense reaction requiring explanation. This is decidedly not true. It is far better for this inquiry to be initiated from within the profession most vitally affected, than to have any rash or premature attempt at a solution originate elsewhere.

And while for the past half decade there has been much discussion as to the deplorable state of the middle class when attacked by illness, it is hoped that the committee will not neglect to inquire into steps being taken by the members of this economic group to safeguard themselves against the inevitable incidence of personal or family illness.

Furthermore, a study of the present system of medical education cannot be said to be entirely foreign to the subject. It has been said that the present cost of securing a legal right to practice the healing art, in conjunction with the stress which is being laid on ultrascientific medical teaching in the undergraduate curricula, tends to direct the professional steps of the young physician into specialties for which he is inadequately trained, but in which a comfortable if not luxurious living can be promptly earned, with comparatively little exertion on his part. A comparison of the fees expected by the younger physicians who denominate themselves as specialists soon after the conclusion of their intern days, with those of men whose experience is measured in terms of decades, would be enlightening.

THE MODERN HOSPITAL commends the committee on the comprehensiveness of its program. But, after all, the value of this study will depend not only upon the interest aroused, and the accuracy practiced by those who answer the inevitable but necessary questionnaire which will, no doubt, be shortly forthcoming, but also on the sanity and insight into human character that are displayed in interpreting and translating into terms of practical usefulness the statistical and other data that become available.

Works Versus Words

TO BE commended at all times is conservatism, that priceless quality that saves men from making fools of themselves. Contrary to general belief, conservatism is not by any means the opposite to progress but is the safety valve that makes progress both plausible and possible. The only confusion that arises from conservatism is the fact that so many think that to be conservative it is necessary to proceed so slowly as to hold back the entire procession.

There is no connection between conservatism and procrastination, yet the person who is a procrastinator often is spoken of as conservative, when as a matter of fact he is just lazy.

It is an easy matter to consider facts but it takes courage to act upon them, so that we have in all quarters the spectacle of men mumbling words and shirking work and claiming to be safe, sane and conservative when they are nothing of the sort. The procrastinator is an obstructionist and an obstructionist is an abomnation in the eyes of men and gods alike.

There is little consolation in the fact that the procrastinator usually is paid by seeing someone else accomplish what he has been unable to decide to do, particularly when the procrastinator's feelings are wounded and he feels that he is being badly used when he has been beaten by the doer.

It is easy and satisfying to say that you are going to do some great deed and then completely forget it. It is infinitely more difficult to actually set to work and do the deed, but the rewards are greater and in the end bring to the doer a sense of gratification that may be gained in no other way. To rush in and blunder about is pretty bad, yet it seems to be somewhat better than to do nothing at all.

Talking It Over

SAN FRANCISCO now becomes the focal point of interest to the progressive hospitaler. The last detail has been arranged and the stage set for the impending convention and those in charge of it are marking time until the morning of August 6, awaiting the arrival of the hospital fraternity.

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THE meeting this year besides being attractive from a social and touring standpoint should be one of the most profitable ever held by our association from an educational standpoint. This year the scientific exhibit will carry out still further the ambition to present the essential features of scientific work not possible in the sessions alone. Now that the association is divided into sections each member has real work to accomplish, and each member will hear things discussed that are of vital importance to his particular field of labor.

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GETTING small groups of people together to criticize frankly, to raise questions and to make suggestions is about the only method of getting at the honest judgments of the nonexpert. And the sharing of such opinions stimulates the critical attitude toward our own work and stirs latent common sense, which after all is enough to lead us to see many of the faults in our work. The proper way to run a hospital is to know everything there is to know about it, and you cannot find this out unless you leave your own place and find out what others are doing. Hospital executives as they meet yearly at the national conventions are becoming better and better acquainted with each other and with the methods each one is using, and they are finding it greatly to their advantage. It is by matching thought against thought that we arrive at constructive and workable policies and methods.

* * *

IF THERE is an answer anywhere to the question you wish answered on hospital affairs it will be found at San Francisco in August. If there is any kind of material or help you need in your work you may count on finding it at San Francisco or learning where to get it. If there are experiences you wish to talk over with those who have had somewhat kindred experiences you may expect to find those people at San Francisco. Discussion brings out the best of every question and at conventions men and women learn the art of debate and the faculty of presenting facts in illuminating fashion.

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ASIDE from the program which has been so carefully planned, the entertainment committee has arranged a social program that will fill the odd times during which the visiting delegate can enjoy a few hours of entertainment with his friends. There must be time for pleasure, even at conventions. And the Frisco convention will be no exception to the rule. Sightseeing trips and numerous entertainments have been arranged and San Francisco has many attributes that make it a city of more than casual interest.

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YES, conventions are a good thing. They facilitate the diffusion of knowledge and bring about a likemindedness more speedily than any amount of printer's ink. Magazines may record the happenings, may indicate the more important thoughts put forward, but they cannot take the place of the visual appreciations, the personal contacts, the intersession debates. One must attend and participate to get the real benefit of such a gathering. Come to San Francisco and rechart your course and correct your hospital compass.

* * *

THESE are the days—these days of August—when the inclination to work or even to think is at its lowest ebb. Old Man Inertia stalks the highways and byways and does not have to do too much beckoning to get an army of recruits. Sitting still becomes the leading indoor and outdoor sport and in this great democracy where there is usually no class distinction, there is at this time of the year no distinction between the classes—all are supremely and gorgeously lazy. Mrs. Sweeney on a hot afternoon dozes by the washtubs while Mrs. Effingham-Smythe permits a dignified nod or two on the chaise longue. It is the season when the corpulent banker looks long and wistfully at the tramp, who is peacefully and sonorously at sleep beneath the shade tree, and his own head falls forward on his ample shirt front for forty winks.

* * *

EVERYONE asleep? Well not exactly everyone. There's the ambulance driver and the orderly and the intern and the admitting clerk and the nurses and the rest of the hospital personnel who must stay awake, and wide awake, to see that the community is served and safeguarded. For no matter how much those who work in hospitals may desire to loaf, their opportunities are few, and though the whole world turns out to play, those faithful guardians of Everyman's health must still stand watch.

The Modern Hospital Reading Course: Lesson XX

The Special Departments for Diagnosis and Treatment

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EFFICIENCY in the clinical care of hospital patients cannot rise above the facilities and standards of the departments that must assist in determining the patient's diagnosis and in carrying out his treatment.

These adjuncts to the work of the physician are so essential as to dwarf the importance of the proverbial stethoscope and pill box of the oldtime practitioner. While important, they are, nevertheless, adjuncts to the work of the physician and their services must be controlled and evaluated by him.

The special services that will be discussed in this chapter must all maintain their proper relation and subservience to the physician's general plan for curing the sick man. If the attending physician is the brain of this treatment, the special departments may be likened to the eyes, the ears and the hands. A small part of this chapter is devoted to employees' welfare work, which while not directly related to the doctor or patient, is obviously valuable in promoting the general scheme. Radium therapy is not dealt with, although the student should inform himself concerning its requirements by referring to the literature on the subject.

The Hospital Laboratory

Perhaps, it is trite to liken the laboratory to the heart of the hospital, but the comparison does not overestimate its importance in the scheme. The laboratory must indeed be a living, throbbing part of the hospital body, in order to give the maximum of assistance to the welfare of the patient. Its functioning must dovetail closely with the other activities of the institution. The laboratory must not be a detached unit, uninterested in the general problem, and its work must be so ordered as to fit the institution's needs.

The laboratory is largely a diagnostic adjunct, but in certain procedures, such as preparation of vaccines and sera, it has a part also in therapy. It must maintain facilities for performing all of the tests and examinations that the physician requests. Further, it is the function of the head of the laboratory to suggest to the physician other procedures that he may not have requested.

Two general methods of laboratory operation are to be found in hospitals. The one places the laboratory as an integral division of the hospital, functioning, in relation to the management, in the same way as any other department. The other is the system sometimes encountered by which the hospital turns its laboratory over to some outside person who does the work for the hospital on a contract or other basis.

Laboratory Work May Be Done Outside

It often happens that a competent laboratory man may maintain a private laboratory for the general use of the physicians of a community. As stated, hospitals of the community have sometimes arranged for this man to take over the institution's laboratory responsibilities. In certain instances all specimens are taken to the private laboratory for examination, but more frequently space in the hospital plant is turned over to the laboratory man who buys supplies, pays employees and otherwise operates the laboratory entirely separate from the hospital organization, but according to whatever contract is arranged. Variations of this plan are encountered.

It is rather difficult to compare these two systems upon an equitable basis. That the second one has apparently given satisfaction to certain hospitals is evidenced by the fact that the practice has continued to exist. I believe, however, it is as a general thing quite undesirable to farm out any portion of the hospital's responsibility in this manner. Without absolute control of the laboratory, the hospital administration can have no certain control of standards or of fees charged.

Another disadvantage of this system is the fact that an additional bill must be rendered to the patient, which is often confusing to him. Hospital laboratories operated in this manner are sometimes regarded by the laboratory man as a business enterprise, which is likely to encourage short cuts and reductions of standards in order to increase profits.

The greatest objection is the uncertainty as to whether the laboratory will fit itself properly into the hospital organization, considering that the administrative head of the hospital will not be

able to compel complete cooperation when he considers it necessary. Moreover, there are many services that a well equipped laboratory can render to the hospital which have no direct relation to the diagnosis and treatment of patients. These services, which will be discussed later, would probably be refused by the detached laboratory, and the hospital would either go without them or pay regular rates for them. The laboratory as an integral part of the hospital is earnestly advocated.

The varieties of service offered by the hospital laboratory will depend in a measure upon the size and type of institution. If the laboratory service is to be well rounded, however, most of the subdivisions will exist regardless of the hospital's capacity. In a smaller institution one or two persons may cover the work of all subdivisions. In hospitals where the work is more extensive, there may be one or more people definitely assigned to each subdivision.

A brief statement follows concerning each of the subdivisions generally considered necessary in hospital practice.

The division of pathology embraces the performance of autopsies and the preparation of specimens from them, and includes examination of material removed at operation, as well as examination of small portions of tissue that may be sent from the wards for examination. This division requires the services of expert technicians to do the histological work. Gross and microscopic diagnosis must be done by a thoroughly trained pathologist, usually a physician with special preparation in pathology.

The performance of autopsies is the duty of the pathologist. He should be available for this service upon short notice. Modern hospital practice encourages the procurement of autopsies. Lack of prompt availability of a pathologist often defeats this aim, in that relatives and undertakers refuse to delay removal of the body when the autopsy cannot be done immediately.

Pathologist Directs Laboratory

The proficiency of the pathologist in gross and microscopic diagnosis will determine the benefit accruing to the medical staff from autopsies. His work in diagnosing surgical specimens is his most important function. Lack of ability in this line can readily be responsible for preventable illness and even death. The pathologist is usually designated also as the "director of the laboratory."

In the division of bacteriology the duties include examination of throat and other cultures, the examination of smears of pus or other infectious material, preparation of vaccines and similar treatment agencies, performance of bacteria counts, identification of bacteria found in tissues or body fluids and sputum examinations. The performance of this work requires a person thoroughly trained in bacteriology and the related sciences. The more he knows concerning the medical significance of his work, the better.

The major work of the serological division usually is the performance of Wassermann, Kahn or related tests on blood serum and spinal fluid. It also includes blood grouping, Widal test, spinal fluid examinations and many other tests. The person in charge of this work also requires extensive training and experience.

The routine clinical work includes ordinary urinalyses, gastric analyses and routine examination of feces. It is necessary that this work be supervised by a highly skilled person, but it is possible to train junior technicians so that they can satisfactorily perform these simpler tests.

All quantitative determinations on specimens of blood, urine, other body fluids and exudates are done by the division of physiological chemistry, which requires the services of a well qualified physiological chemist.

A well rounded laboratory service must have equipment for photomicrography and the preparation of lantern slides, as well as photography. In complete laboratories it is valuable also to have a person who can make drawings of anatomical material when desired. This division is often not provided in smaller laboratories, but becomes necessary when research is being done or when the laboratory staff is expected to prepare papers for medical societies or staff meetings or when publication of books or bulletins is a necessity.

Laboratory Fees

Modern laboratory service is expensive. In the hospital that caters to paying patients it is obvious that the patient must bear at least a portion of this expense. The earlier practice in charging for laboratory work was to set a specific fee for each procedure and add these items to the patient's bill. The average patient is quite able to understand why he should pay extra for an operation and usually does not object to an extra charge for an anesthetic. In most instances patients make no complaint concerning reasonable x-ray charges. In other words, the patient is willing to pay an extra charge for some concrete service rendered to him.

All too often, however, the laboratory examination, which may indeed establish the diagnosis in his case and may often be the means of saving his life, is something nebulous in the mind of the patient. He may even be inclined to doubt whether

any such service was rendered. The laboratory, for instance, may do a quantitative urinalysis daily for him, he naturally having had no concrete evidence that such service was rendered. When he finds his bill to include charges for such tests, he is inclined to pay them complainingly, and what is more important, to complain to his doctor regarding the excessive cost of these intangible services.

There can be no doubt but that this attitude on the part of the patient influences his private physician to keep laboratory costs as low as possible and to ask only for tests considered necessary. The result of this tendency upon the efficiency of medical work is evident to anyone who will make unbiased observation of the treatment of patients in hospitals where specific charges are made for laboratory service. The remedy is for the hospital to charge enough to cover laboratory expense, but not to do so by specific bill for laboratory work. The hospital should either charge enough for its rooms to cover laboratory expense or should make a flat rate chargeable to all patients to cover all necessary laboratory work.

Frank E. Chapman, director, Mount Sinai Hospital, Cleveland, suggests that the hospital determine its laboratory budget at the beginning of the year and decide upon an equitable charge of, for instance, $5 for private room patients and $3 for ward patients, which will cover this laboratory expense during the year, it being possible to forecast the number of patients to be treated with fair accuracy.

Selecting the Laboratory Director

The review of the subdivisions of the laboratory given above will indicate the necessity for high qualifications in the person who is to have charge of the entire laboratory service.

The head of the laboratory should have a clear knowledge of the details of the work of the various subdivisions. If the laboratory is small, he will put this knowledge to practical use by taking over the work of some or all of the subdivisions. Even in the larger hospitals he will probably handle the detail of at least one subdivision, that being usually pathology, and will need to act as consultant and adviser to the workers in the other divisions.

A Ph.D. or a medical degree is a reasonable requirement in a laboratory of any size. I believe that the medical man thoroughly prepared in laboratory branches is to be preferred for this position. There are undoubtedly doctors of philosophy who have succeeded admirably as pathologists, but the likelihood of their being able to cooperate with the other medical divisions in the care of the patient is less. An M.D. degree alone, however, is insufficient. There should be thorough and prolonged training in general laboratory work with particular training, if possible, in one or more of the laboratory specialties.

In selecting a laboratory director it is important to consider personality as well as training. A scientific attitude, fearlessness, ability to cooperate with others, and a mind that can see the practical as well as the theoretical are all desirable. The laboratory man, particularly the pathologist, must have sufficient stamina to give opinions, and to call attention to errors in diagnosis or judgment, without fear or favor. Capable laboratory workers cannot be secured nowadays without adequate salaries, and hospitals should not hesitate to pay enough to secure a competent director and personnel.

Architectural Requirements

In locating the laboratory within the hospital it is necessary to consider several points. The laboratory should be at a place where it can readily be reached by the physicians using the hospital. This is important because personal consultation between the physician and the laboratory staff will be productive of better cooperation and of mutual helpfulness. Some hospitals place the laboratory near the operating rooms. This encourages the surgeons to work closely with the laboratory and is desirable if it does not make the laboratory difficult of access to the doctors not using the surgical department.

The question of transportation of specimens from wards to laboratory should be considered. Availability of storage space and suitable accommodations for laboratory animals should be considered. In large institutions having more than one building it is sometimes possible to provide a separate building for the laboratory. This is all right if the department remains as accessible as if it were in the main building. There should be ample office space for workers with, if possible, separate rooms or groups of rooms for each of the laboratory divisions. Sanitary provision for the housing and care of animals is quite necessary. The morgue and autopsy rooms should be conveniently located. A room with comfortable chairs should be provided for clinico-pathological conferences and for meetings of the laboratory staff. Most hospitals make the mistake of allowing much less space to the laboratory than it needs.

The equipment should be of the best and should be kept abreast of modern trends in laboratory practice. In this respect a hospital laboratory often has an undeservedly hard time if its budget is

passed upon solely by a business executive not familiar with medical needs.

If the laboratory is not near the operating rooms there should be a small room or part of a room in the operating room corridor where frozen sections can be prepared.

Relation to Other Medical Workers

It is of paramount importance that the laboratory shall function smoothly as an adjunct to the attending and resident staffs. The laboratory must adapt its work to the needs of the various medical divisions, and if necessary the work of the physicians should be altered in such a way that no disadvantage will accrue to the patient and the laboratory will be helped.

The head of the laboratory, and if the department be large, the heads of the subdivisions, must make themselves accessible to the doctors using the hospital. They should by all means encourage personal consultations regarding cases. They should not maintain an arbitrary attitude in connection with the rendering of service. The wrong attitude in this respect can easily make of the laboratory a kind of factory for grinding out tests and reports. On the other hand, if the laboratory staff strives to its utmost to assist the physician in the treatment of his case, the latter will be encouraged to use the laboratory more and more, will have greater respect for it, and his results cannot but be improved. In this way the members of the laboratory staff will find the work more interesting, and if they are able to connect the scientific procedures with the actual benefit to the patient they will more definitely understand their value.

The prime purpose of the laboratory is to assist in the diagnosis of medical conditions, but its presence in the hospital can be of great comfort and help to the administration in other respects. It is unwise to permit those in charge of the laboratory to assume that their sole duty is in connection with the wards. They should be encouraged to fit themselves into the administrative scheme of the hospital and to be of assistance whenever practicable.

If something goes wrong in the laundry which the services of a chemist will straighten out, it is most helpful if the chemist in the laboratory can solve the problem. In hospitals having extensive grounds or located in the country, the laboratory can well be employed to make sanitary surveys of the buildings and of surrounding territory. Thereby mosquito nuisances, contamination of water supply and a dozen other evils may be avoided or lessened.

No hospital with a laboratory at its beck and call should accept at face value bacteria reports on its milk supply provided by the dairy or by the local health department. A check-up on fat content, as well as bacteria content of milk, will often be surprising and, needless to say, will be helpful to the institution. In case there is a private water supply, the laboratory should control it by bacteriological and chemical tests. The workers may also render valuable service in conducting laboratory courses for the nurses. Every hospital intern should spend a part of his time in the laboratory. Some state boards will refuse him a license unless he has done so.

Records

It is not possible in this article to go into detail regarding laboratory records. A permanent record should be preserved in the laboratory for every test and examination made. The records in the laboratory should be kept in such form as to be readily accessible and should be cross-indexed in such a manner as to make it possible to find any report promptly. Preservation for a reasonable period of pathological and bacteriological slides and preparations is essential.

If a test is done in connection with a patient in the hospital, the result should be immediately recorded upon the patient's record. The same is true for persons visiting the out-patient department. If the test is done for the outside private patient of a member of the staff, the latter should receive a written report at once. Urgent reports, such as positive diphtheria cultures and positive gonorrheal smears, should be reported by telephone to the physician in charge of the patient.

Some laboratories fail to get the results of their work recorded upon the patient's chart soon enough. It will be readily understood that this is necessary, a few hours' delay probably meaning that the patient's physician will not be aware of the result of the test for at least another twenty-four hours.

Recording Systems Vary

Two principal systems are employed in recording laboratory results on charts. One system employs a separate sheet of paper for every test. These reports are filled out by the technician doing the tests, are sent to the wards and are inserted on the patients' charts. The two values of this system are: First, that it permits a prompt recording of the results; second, that the original report goes to the patient's chart. In spite of these advantages, however, the system seems to be undesirable because of the bulk it adds to the patient's record. A daily urinalysis, for instance, will add fourteen pages to the record in a fort-

night's stay. This factor of bulkiness must be considered because it greatly increases the filing space necessary; also, it requires the turning over of many past records to find the current one.

The second system which is the one to be recommended, provides a set of forms so designated that the commoner laboratory tests may be recorded—a number on each sheet. In order to operate this system it is necessary for the laboratory's results to be recorded in a book or on cards, and this record taken as soon as possible to the ward where the report is copied upon the patient's chart. For large institutions doing a great volume of work, the saving in paper is considerable and I have never felt that there was difficulty from inaccuracy in transcribing reports.

Another interesting form of laboratory record is the pathological museum which preserves interesting specimens of great value in teaching, and of potential use in following later developments of the case, if the patient is living, or of the patient's family, if the specimen be secured at autopsy.

Autopsy records must be complete and permanently preserved. The building up of a prompt and efficient autopsy service is the duty of the laboratory. By stimulating interest in autopsies, the laboratory may do much to elevate the standard of medical practice in the hospital.

X-ray Department

No general hospital of appreciable size should attempt in this age to function without x-ray equipment. There is hardly a branch of medical work that does not need some sort of x-ray work in connection with its cases. X-ray work for the purpose of discussion may be divided, as follows:

Radiography: This branch includes the taking of ordinary x-ray pictures for diagnostic purposes and their interpretation.

Fluoroscopy: Fluoroscopy is that use of the x-ray which permits direct viewing of bones and internal organs, *in situ.* Fluoroscopy is frequently used in connection with gastro-intestinal diagnosis, an opaque substance that renders the outlines of stomach and intestines opaque to the x-ray, being ingested by the patient.

Superficial Therapy: This form of x-ray treatment is usually employed in dermatological conditions and superficial morbid growths. It requires a machine of less capacity than deep therapy treatment, and where there is any quantity of therapy to be done a separate superficial equipment is usually provided.

Deep Therapy: During the past ten years this method of x-ray treatment has been employed with increasing frequency. By far the greater number of cases in which this therapy is employed are either carcinoma or sarcoma. It is often used as an adjunct to surgery or to radium treatment. It has been used also in the leukemias and in certain other conditions. The equipment is expensive and is safe only in the most expert hands. That it is definitely a valuable agent when properly employed, is certain. Institutions handling numbers of cancer cases can hardly give these patients complete treatment unless they possess such an equipment.

Roentgenologist Should Act as Consultant

The x-ray department, like the laboratory, must so order its work and methods as to give the maximum assistance to the clinician in the diagnosis and treatment of his case. The roentgenologist must not be merely a person to take x-ray pictures and carry out other orders for x-ray work. He should be and usually is a physician of broad experience with sufficient clinical background to act as consultant to the clinician. He should be available to talk over cases with clinicians, and the clinicians should ask his advice in matters pertaining to his field of work.

X-ray equipment, through zealous selling efforts on the part of manufacturers, has often fallen into the hands of practitioners who have used it with the best intentions but without the requisite knowledge to produce proper results. No roentgenologist is worth employing if he cannot give a better and more accurate interpretation of x-ray pictures and fluoroscopies than the casual clinician. It is true that any clinician will wish to see x-ray plates and to witness fluoroscopies. The opinion of the roentgenologist, however, is the official one and should be recorded upon the patient's chart.

The roentgenologist is not expected to diagnose cases. The hospital has the right, however, to expect from him a clear description of the findings encountered. It is then the duty of the clinician to use these findings in connection with the general picture of his case in such manner as to him seems wise. X-ray therapy, superficial or deep, should in each instance be decided upon only after a conference between clinician and roentgenologist. In matters of dosage and frequency of treatments the opinion of the x-ray man should carry much weight.

Human psychology enables the patient to grasp the value of x-ray service much more readily than that of a laboratory test, for example. The fact still applies here, however, that exhorbitant charges for x-ray work will deter the patient, and through him the clinician, from securing examinations or treatments that may be necessary.

X-ray service is expensive and good x-ray men

command large salaries. The private patient should, therefore, pay suitably for this service. It is believed that the most desirable plan, from the point of view of efficiency of medical care, is to include necessary x-ray service in the room charge or in a flat rate chargeable to all patients of a given class. Many hospitals depend upon their x-ray departments for a considerable amount of income, with which they would hesitate to part. The income is, of course, necessary, but if the flat rate or room charge is so worked out as to cover the necessary amount, the hospital will be just as well off. Where no specific charges are made, it is natural that the amount of work will increase. However, the x-ray staff must be available in any case, and even a doubling of the volume of work will add but little to the total cost.

Should Have Full-Time Roentgenologist

If the amount of work justifies it, the hospital should have a full-time roentgenologist. He should be well paid and he should have enough assistants to enable him to do careful, scientific work. It is possible for one x-ray man to supervise the work in two or more smaller institutions, each hospital maintaining as many technicians as necessary, who can be constantly on the job and who can take care of emergency radiography. Trained technicians may also operate the therapy machines according to the specific directions of the roentgenologist. The roentgenologist should so arrange his time as to be available at certain hours of the day for consultation with the staff. He should take an active part in staff meetings. Whenever a case is discussed in a staff meeting, the roentgenologist should present his department's findings in that case. In order for him to be successful, therefore, he must be maintained in a position of dignity as a peer of and a consultant to the remainder of the staff.

The x-ray department should, if possible, be placed where it is readily accessible from the outpatient department and from the medical and surgical wards. It should be as near as possible to the main line of travel of attending physicians, so that it is convenient for them to drop in for consultation concerning their cases.

The development of quieter machines and of soundproof machine rooms makes the x-ray department less objectionable in the matter of noise. Space allotted should be ample to accommodate the volume of work. Roughly, a complete department should have the following facilities:

1. A patients' waiting room with enough chairs to accommodate the maximum number and with convenient lavatory facilities.

2. There should be an ample number of dressing rooms where out-patients may remove clothing. These dressing rooms should be equipped with washbasins, mirrors and costumers.

3. One or more radiography rooms; these rooms to contain only the machinery necessary to use in connection with the patient; transformers and other noisy machinery to be housed in adjacent soundproof rooms. Dental radiography, if extensive, may have a separate room.

4. The fluoroscopic room, unless the department is very small, should have a separate equipment and should be arranged with window slides or some other device for complete darkening. This and other darkened rooms should have ample forced ventilation. A toilet conveniently near the fluoroscopic room is a necessity in connection with barium enemas.

5. The dark room should, by all means, be of sufficient size. The mistake has often been made of providing only a closetlike space. A labyrinth type of entrance to the dark room is a great convenience, inasmuch as it enables a second person to enter the dark room at any time without danger of spoiling results by admission of light. The dark room should have forced ventilation. It should have convenient drying racks with electric fans to speed up drying. It should be supplied with refrigerated water connections to keep solutions at a low enough temperature in summer.

6. The viewing room should be away from the line of traffic used by patients and should be readily available to physicians. In addition to ample shadow boxes there should be a stereoscopic unit.

7. The roentgenologist's office is best centrally located, for supervision, and space should be provided for such stenographers and clerks as will be needed. It is often convenient to have one stenographer do her work in the waiting room where she may also receive the patients.

8. The rooms for superficial and deep therapy must be securely leaded and otherwise designed in accordance with the work which is planned. The deep therapy room, the room for the deep therapy transformer, and the booth of the operator of the deep therapy machine must all have sufficient forced ventilation. This ventilation is also connected to the tube shields which are usually employed for deep therapy tubes.

9. Storage rooms must be provided with hangers for surplus x-ray tubes and space for other supplies.

How to Prevent Accidents

Three types of accidents are sometimes encountered in x-ray work, namely, injury from electrical shock, injury from x-ray burns and sys-

temic injury to workers from prolonged exposure. The number of such casualties is fortunately few, but every safeguard must be provided. Operators of x-ray machines have been electrocuted, as have also patients. The installation of the equipment cannot be too carefully planned, and it is an absolute necessity that none but persons thoroughly trained ever be permitted to operate the machines.

X-ray burns were more frequent in the early days of the work than at present. Rational use of modern equipment with properly adjusted filters, almost eliminates this hazard in connection with the taking of x-ray pictures. In therapy, however, it is necessary more nearly to approach the borderline of safety in the amount of radiation given. The surest guarantee against accidents of this nature is to secure a roentgenologist of thorough training and one who will exercise meticulous care.

Adequate leading of rooms and operators' booths to prevent exposure to the rays, by the operator are necessary. Periodic blood counts and frequent rest and recreation in the open air will also safeguard the operator.

The introduction of the slow-burning x-ray film reduces the hazard from explosion. Inflammable films still held in files should be kept in metal receptacles approved by the underwriters.

Requests and Reports

Whenever any x-ray service is ordered, the clinician or his intern or resident should prepare a form of request in which all the civil and clinical data necessary for the use of the roentgenologist are entered, together with the request for what is wanted. This request is usually filed in the x-ray department after the record of work done is recorded upon it. The x-ray department, immediately upon completion of the work, prepares a written report which is immediately routed to the patient's record for hospital cases, to the out-patient record, or, by mail, to the attending for private out-patients, as the case may be.

Physiotherapy

Physiotherapy means treatment by physical means and is usually understood to include treatment by various forms of electrical current other than x-rays; treatment by means of lamps and various forms of light; treatment by means of water (hydrotherapy). The development of this service is even more recent than that of x-ray work, but it has filled a long-felt need. Hospitals handling tuberculosis, acute and chronic paralyses, arthritides, orthopedics and similar conditions have found physiotherapy invaluable. Physiotherapy is, in fact, a requisite department in the modern hospital.

Space does not permit discussion of details of this work. Needless to say, the treatment must be administered by well trained individuals and all of the work must be so ordered as to fit into the clinician's general scheme of curing the patient. Nurses, especially trained, often do this work admirably, but there should be a responsible physician who at least gives general supervision and thought to the department.

This division will find extensive use in connection with the out-patient department. The neurologist will also send much work. The fee system must suit the conditions of the particular hospital, but like the other departments thus far discussed, the plan of fees should be so designed as not to discourage employment of these valuable adjuncts.

A similar system of requests and reports to that mentioned for the x-ray is satisfactory. For

Review Work

1. Devise a complete record system for the laboratory of a general hospital.
2. Work out a system of flat rate charges for laboratory work in a hospital known to you, considering both the needs of the patient and the hospital's income requirements.
3. Draw floor and detail plans for the x-ray department of a 250-bed general teaching hospital.
4. You are superintendent of the above hospital. What steps would you take in selecting and purchasing the x-ray equipment, hiring a roentgenologist and assisting him to organize his department?
5. In what types of cases are the following equipments useful: ultraviolet light; infra-red light; diathermy; galvanic current; muscle training; Zander apparatus?
6. What arguments might be advanced to the board of education to induce them to supply teachers for a hospital school?
7. If you were employed to do welfare work among hospital employees, what steps could you take to reduce excessive labor turnover?
8. Make a list of drugs which should be stocked in the medicine cabinet of (a) a maternity ward, (b) a medical ward.

hospital patients it is well to have the patient's chart accompany him to the physiotherapy department where the treatment may be recorded promptly and with economy of paper and space.

The physiotherapy department must be carefully designed, with treatment booths, hydrotherapy rooms and massage tables. There should also be a number of portable machines, such as diathermies and therapeutic lights which may on occasion be taken direct to the wards for treatment of the patient in his bed, when moving him would not be practical.

Electrocardiography

The electrocardiograph is a purely diagnostic instrument, having nothing to do with treatment, and is employed in heart conditions. It is particularly valuable in differentiating irregularities of the heart, and is of value in determining prognosis in heart affections. Both stationary and portable equipments are available. For exact work, it is probable that the stationary machines are to be preferred. Because findings are often upset by moving or exciting the patient previous to the recording of the electrocardiogram, it is advisable that the machine if stationary, be connected by a special wiring system to the medical wards.

The actual recording of a tracing may be done by a trained technician, but the interpretation of the tracing can be attempted only by physicians with particular training in this branch. Charges for electrocardiography range from $5 to $25 per tracing. Here again, the work is stimulated if the fee is kept moderate or is included in the general charges.

Pharmacy

While the amount of drugs used by doctors is much less than in bygone years, the pharmacy is still an important part of the hospital's armamentarium. Every hospital pharmacy should be supervised by a skilled and licensed pharmacist. He may work part-time or full-time, as conditions require. Only the smallest hospital could possibly afford to use outside pharmacies to supply all drugs because of the great cost of such service.

In addition to the medicines that are provided for patients, the pharmacy may perform many other services for the hospital which justify the expense of its operation. Here again, it is unwise to charge extra for each dose of medicine. Drugs are still conceded to be absolutely necessary in the treatment of most cases, and it is entirely the wrong principle to discourage the physician and his patient from using the necessary medicines by charging these individual fees. With the possible exception of costly drugs, I believe that there should be no extra charge for the services of the pharmacy.

The pharmacist should be a salaried employee and should have such assistance as may be needful. A location near the out-patient department so that prescriptions for out-patients may be readily handled is an advantage; otherwise, the pharmacy has no special requirements other than space and the requisite light and air. The size of the pharmacy will vary, according to the load it carries; it may be one room or many rooms.

It should have adequate shelf space for stock drugs, with permanently labeled bottles for all regular stock. There should be a space for storage of bottles and packages of various drugs from which stock bottles are filled. There should be a counter with suitable equipment for dispensing and compounding. If solutions are manufactured in large quantities, there should be a manufacturing space or room. There should also be a locked room or closet where the stock of alcohol and other spirits may be safely stored. Narcotics may be kept in this room or, preferably, in a safe. An additional room for neat storage of barrels of such materials as are used in large quantity is helpful.

Pharmacist Must Cooperate With Staff

The pharmacy like the other departments, must cooperate conscientiously with the medical staff and must also provide a maximum of service at a minimum of cost. The utilization of tax-free alcohol which all nonprofit-making hospitals may obtain, in the manufacturing of various products can be the source of great saving of money.

The development of a hospital pharmacopoeia, listing definitely stock drugs and compounds, will be a convenience and a source of saving. The medicine cabinets on the various nursing divisions of the hospital should contain a standard and definite list of stock drugs. All other orders should be considered special, and should be obtained from the pharmacy in such quantity as the particular patient seems to require. The drug cabinets on the wards should be inspected periodically by the pharmacist, to see that the standard drug list of the hospital is adhered to. The prevention of compounding into prescriptions of two or more drugs which could just as well be given individually is a means of economy. If such compounding be permitted, the components of the prescription are useless if the patient does not use up the total amount compounded.

It is questionable whether the average general hospital particularly needs to keep a stock of whiskey and other intoxicants, other than grain alcohol. The presence of liquor in the hospital is

a constant source of concern to the management. It is doubtful whether whiskey, for instance, is of greater therapeutic value than a 50 per cent solution of grain alcohol. If the carrying of a stock of such intoxicants can be eliminated, the hospital will be released from much responsibility, from laborious reports to the government, and from endless suspicion of employees if the liquor stock shrinks unaccountably.

Products of the pharmacy should be requisitioned daily by the wards and other departments requiring them. A requisition form should be provided, which should be viséd by someone connected with the administration before it is passed on to the pharmacist.

Schools in Hospitals

Many tuberculosis hospitals, children's hospitals and preventoriums have found it highly desirable to maintain kindergartens and schools for patients. Wherever any considerable number of children of school age are under treatment for extended periods, it is only fair and proper that every facility be extended for continuing the education of these patients.

The hospital school has two definite advantages. The first and most important is the fact that the child confined to the institution for treatment is often able to keep up his school work, so that when he is released to the community he has not fallen greatly below the grade of his former companions. This fact prevents him from developing feelings of inferiority or of acquiring the idea that he is so far behind that future schooling is useless. A quite definite advantage to the hospital is the employment of the time of the ambulatory or wheel chair patient during his hospital stay. The work on the wards can be reduced by this means and the patients are less troublesome to the nurses.

Personnel and Recreation Work

Wherever large groups of employees not only work but reside in an institution, many problems arise in connection with play as well as work, and there are always personal problems that seem to require attention.

If it is possible to obtain a worker who has training in the recreation field and who also is socially-minded, much can be done to improve the time and the contentment of the employees and to solves their individual problems. Such a person should meet the employee as soon as he enters the service, in order to gain his confidence, and should find out his preferences as to recreation, his interests and hobbies, so as to be able to promote his contentment throughout his stay. This person can well be a representative of the administration in settling disputes among employees and bringing to the attention of the administration supposed or actual wrongs to the employees, and altogether can make their lot a happier one.

In Grasslands Hospital, Valhalla, N. Y., it has been found valuable to use a part of the time of one school teacher to conduct Americanization classes, in the form of a night school where English and the common branches are taught to employees of foreign birth or of deficient education.

This article has discussed the more important of the so-called special departments of the hospital. It has attempted to demonstrate their importance and to suggest methods through which they may increase the effectiveness of the hospital, as a whole. For more elaborate details, the reader is referred to the voluminous literature that exists in all the departments, save the last two mentioned. It is firmly believed that attention to and careful working out of these special departments are requisites to successful hospital administration.

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Numbered Prescriptions Are Convenient

Many hospitals having large out-patient departments have established pharmacies wherein prescriptions for these departments are filled. Often the same prescription may be presented several times each day, so the pharmacist, in order to facilitate service and run his department efficiently, prepares these prescriptions in bulk. Further, in order to obviate the necessity for writing and rewriting the same prescription a number of times, the practice of numbering them has been adopted. This of course necessitates the prescriptions being filled by the hospital pharmacist, as the corner druggist would not know what constituents were required for number three, or number two, or number eight prescriptions.

The system has proved satisfactory, but it often happens that the patients do take their prescriptions to the corner druggist, and the druggist, necessarily has to call the hospital for a copy of the prescription. Ethics demand that this information be given, for if it is refused, the patient is not only inconvenienced, but unfriendly relations are apt to arise.

YOUR EVERYDAY PROBLEMS

A department devoted to the informal discussion of problems arising in the everyday life of the hospital superintendent.

[No attempt has been made to offer final conclusions relative to the questions considered in this department. THE MODERN HOSPITAL will gladly welcome further comment by its readers on any of these problems, or the presentation of other queries for discussion in later issues. —Editor.]

What Rules Should Exist for Proper Ambulance Upkeep?

The maintenance of the hospital ambulance is an expensive item. Ambulance chauffeurs are particularly prone to abuse their cars in the name of speed. Sharp trolley tracks are particularly hard on tires. In the rush to get through the day's work, definite and regular inspections of ambulance equipment are often overlooked. If the institution possesses but one vehicle for ambulance work, it seems necessary at times to use this car for purposes other than the transportation of patients.

Certain rules covering inspection and record keeping of supplies, are essential. A record of tire mileage may be secured by recording the reading of the speedometer at the time each set is applied. Where the ambulance is equipped with a speed recording apparatus, regular notations from this tape should be made, even though the tape covering each day's work is not preserved. Gas and oil consumption should be carefully recorded at the end of each twenty-four hours, and the mileage computed from the consumption of a gallon of fuel and oil. The institution may save money by periodically overhauling its ambulance, tightening bolts and nuts, and by the careful periodic inspection of motor performance. A weekly inspection should be made of the oiling and cleaning as well as the upkeep of the ambulance by the chauffeur in charge. The United States Army regulations in regard to this matter are efficient and are applicable to hospital practice. Prompt reports of accidents, with a definite placing of responsibility, should be required.

In passing, it may be said that collision and personal liability insurance, while perhaps not legally necessary, are at least morally justified. A good grade of chassis and body building is certainly, in the long run, the most economical for ambulance purposes.

What Sort of Program Should Be Arranged for a Nurses' Commencement?

The nurses' commencement is an event that occurs but once in the life of the members of the graduating class. This occasion should not be utilized to bring into prominence any one but the members of the graduating class, or anything but the fact that this is a great and important occasion in their lives.

It goes without saying that the program for this event should be dignified, not too long and free from sensationalism. It is customary for a speaker of some prominence who is informed concerning the educational principles underlying the conduct of schools for nurses, to be asked to address the class. This talk should be, if possible, the culmination of the period of instruction, insofar as its inspirational and educational aspect is concerned. The president of the board of trustees usually presides. The directress of the school for nurses should be given a prominent place on the platform and on the program. She presents the product of her educational effort for the three-year period, to the board of trustees, which officially approves by granting a diploma to each graduate.

Medals and prizes are often distributed on this occasion. Prizes as incentives for good behavior and scholastic zeal on the part of nurses probably have their place, although they may be said to represent inadequately the finer recompense of having gained an exceptional ability to serve others.

At the conclusion of these exercises, a reception and often a social hour is held, at which time an opportunity to meet the members of the graduating class is offered. It goes without saying that the strictest decorum should accompany these events. This need not be done at the expense of a good time on the part of the graduates and their friends. The hospital should not in any way be niggardly in providing good speakers, good music and refreshments, to the end that the graduating exercises may be made distinctive from the standpoint of dignity, and attractive from the angle of entertainment.

Should the Superintendent Grant Written Recommendations to Members of the Personnel?

Every hospital executive is frequently requested to give out a written recommendation to members of his institution's personnel who are seeking positions elsewhere. Sometimes, when he accedes, he regrets later that he has done so. Recently a superintendent, after having presented a strong recommendation to a member of his nonmedical staff, discovered that this person whom he had thought most worthy, was guilty of acts concerning which the superintendent knew nothing, and the knowledge of which by others, brought about a serious reflection on the veracity and the good judgment of the administrator. This executive was wholly honest in stating his opinion concerning the high morale and intellectual traits of the person applying for the recommendation.

Many hospital superintendents make it a rule to refuse to place in the hands of hospital employees, a written recommendation. Usually they are willing, however, to allow their names to be given as references, and to submit upon application, an opinion in regard to the fitness of employees seeking larger opportunities elsewhere. The administrator is thus able more frankly to set forth his belief in regard to the capabilities of his subordinate. At

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the same time, he protects himself against such an unfortunate occurrence as that above narrated.

Moreover, it is a well known fact that large employers of labor look somewhat askance upon recommendations that are presented to them. It is regrettable that persons of high rank and education often lightly affix their names to statements in regard to others. This is often done with the best of motives in the desire to be of service to others, and thus to aid the subordinate in securing a better position and salary.

It is good practice for administrators to refuse to sign recommendations that are to be delivered into the hands of subordinates.

Shall Physicians Be Allowed to Remove Charts From the Hospital Record Room?

This question was asked by a superintendent who had had difficulty in preventing the loss or mutilation of the patients' charts. The custom in this institution had been to allow members of the staff to receipt for charts, and to remove them from the hospital. Loss of a part or the whole of a record had occurred, and the hospital was from time to time embarrassed by being unable to produce charts when required to do so by the courts.

This is a vexing problem in many localities. Superintendents hesitate to refuse the loan of charts upon the request of staff physicians. However, even the most meticulous and careful doctor often mislays charts or loses some of their important sheets, and thus makes incomplete the hospital's records and embarrasses the institution when legal proceedings require the presence of hospital records in court. In institutions where a painstaking record keeper has time to follow up lost charts carefully and secure their return after a short time, the danger of loss may not be great. When there is no one upon whom absolute dependence can be placed to perform this function, it is far better to provide comfortable working conditions adjacent to the record room, so that a visiting physician may abstract the charts in which he is interested, without removing them from the hospital.

Where a physician is subpoenaed to present evidence in court relative to his knowledge of the medical or surgical treatment of a given patient, it would be better to give him a copy of the salient features of the chart rather than to loan the original, if there is any danger, (and there usually is) that the latter may be lost.

When difficulty in preventing the loss of patients' records has occurred, and if no suitable solution is at hand, the superintendent should be, and is justified in forbidding the removal of the chart of any patient from the hospital by any one.

Should the Hospital Furnish Insulin Free to Its Metabolic Out-Patients?

The strides recently taken in the study and treatment of diabetes, have produced a great increase in the amount of insulin used in the hospital. This is partly explained by the fact that the diabetic cannot be kept beyond a limited time as an in-patient, but after a rather short stay must be referred to the out-patient department for further follow-up and supervision. Hence a relatively small number of hospital beds devoted to the treatment of diabetes will soon require large metabolic out-patient departments to perform follow-up work. Since diabetes has distinct chronic tendencies, these patients must be supervised over long periods of time.

Does the hospital owe an obligation to these persons to supply insulin free or is it justified in charging those who can pay for this drug? In one institution it was found that from five to six thousand units of insulin were being used weekly in its in-patient wards, and from seventeen to eighteen thousand units in the out-patient department during the same period. The dispensing of twenty-three to twenty-five thousand units of insulin weekly at forty-eight cents per 100 units, represents the outlay of about one hundred and twenty dollars a week.

It has long been the custom in hospitals to charge for biologic products and other rather costly drugs, both in the in- and out-patient departments. In the metabolic department where patients are returning weekly for examination and advice, sufficient insulin must be given to carry the patient over a period of at least seven days. If, for example, the patient were receiving fifty units a day, it would be necessary for the hospital to supply a 400-unit package.

There is no doubt considerable waste on the part of the patient in employing this drug. It seems that the institution is amply justified in expecting those who are able to pay for insulin, to do so. In instances where more than the cost price would not be financially embarrassing, a definite percentage above this figure might be charged, in order to reimburse the hospital partly for failure on the part of others to pay. While no hospital will refuse to supply free insulin if a patient suffering with diabetes cannot pay for this drug, yet such total inability will not be often found, and just as frequently, a readiness to pay more than the cost price will be discovered.

When a Scheduled Operation Is Cancelled, Should the Patient Be Charged?

This is a practical question that was recently raised in a hospital association meeting. There are several aspects to this problem. There are many reasons that justify cancellation of an operation after everything is in readiness therefor. A patient may have developed a bronchitis, or have changed his mind as to his desire for an operation. The surgeon may have been called out of town or an accident may have happened to the hospital heating system.

It can certainly be said that if the operation was cancelled through no fault of the patient himself, he has assumed no obligation to pay for the expense incident to the preparation for it. On the other hand, a situation can be conceived in which the hospital has acted in good faith and in which the cancellation of the operation has been wholly caused by vacillation on the part of the patient. Even in this circumstance, it seems to be an act of good judgment for the hospital to waive its claim for any reimbursement, and cheerfully to permit the patient to leave the hospital if he so desires. It is not always possible to understand the fear psychology of a patient prior to operation, and it might appear rather trifling to the public generally for the hospital to insist upon the payment of a bill concerning the validity of which there might be a difference of opinion in the minds of those not fully informed. The hospital, above all, must command the confidence of the community, and it should not allow itself to be drawn into any controversy in which it appears in an unfavorable light.

THE MODERN HOSPITAL does not believe, considering every angle of this question, that the hospital should charge the patient for an operation which has been cancelled, even though the patient himself is entirely at fault.

What Rule Should Exist in Regard to the Conduct of Religious Workers in the Hospital?

In almost every institution of the country, there are groups of men and women who visit the hospital and conduct religious services formally or informally throughout the institution. These persons, while often having the best intentions, somewhat seriously disturb the hospital routine. Not being informed concerning the condition of patients, they are apt to hold their services in wards where postoperative patients are being treated, or where there are other patients who are so ill that it takes but little to disturb them.

The hospital superintendent should draw up definite regulations in regard to the days of the week upon which such visitors may come to the institution. It would probably be better to designate days that have not been officially set aside as those for the general visiting of patients. The hours between which such services may be conducted should also be rather definitely laid down. The departmental head nurse is usually able to prevent religious services from being held in wards where singing or speaking would annoy the patients. Nevertheless, it is not always possible definitely to designate wards in which such services may be conducted, because of the changing conditions of patients therein.

Music, in the opinion of many executives, should not be lugubrious but should be cheerful and bright. If short talks are permitted, they should be full of encouragement and of optimism. Ease of mind and comfort should result from ward religious services; not added fear in regard to the outcome of the patient's illness.

The superintendent often issues a special type of pass for these workers, and while encouraging them in their efforts in every way, he is likewise able to guide this group of men and women so that, in their well intentioned effort to do good, they do not disturb the patients.

Should Standardization of Preoperative and Postoperative Procedures Be Required by the Superintendent?

Efficiency in industry has been brought about by the elimination of all waste motion. Standardization of any group of procedures aims at this result.

If, in the surgical department of the hospital there are as many different methods of preparing the patient for operation and of treating him afterwards, as there are visiting surgeons, confusion and lack of efficiency are sure to result. To be sure, surgeons are prone to favor rather definite individual methods in the performance of their work. This is particularly true in regard to operative technique. However, this does not apply in the same degree to preoperative and postoperative steps. When a number of surgeons are on the staff of the hospital, it is difficult, if not impossible, to adopt and carry out any standard methods of performing routine surgical procedures.

On the other hand, it has been found to be of great advantage to the hospital to work out a standard technique in the preparation of patients for operation. This has been done in not a few instances, with marked success. It is not, however, within the province of the superintendent to demand that this be done, in the same way as he might rigidly direct the performance of janitorial work.

The superintendent can and should, however, encourage the adoption of standardized procedures, whether it be in the surgical or any other hospital department. This is usually brought about by the superintendent tactfully suggesting to the chief of the surgical staff that such a step would be conducive to increased efficiency. The surgeon may then present to his colleagues the wisdom of such an innovation. The standardization of preoperative and postoperative technique thus originating in the surgical staff, should be submitted first to the medical executive committee of the hospital for its approval, and finally to the board of trustees for formal adoption. It is certainly wise to approach this matter along carefully considered lines, in order that each member of the staff may look upon this step as having been approved by his fellows, and later sanctioned by the board of trustees.

When such a technique has been adopted, it is wise to have it printed or mimeographed in such form that it can be presented to the members of the resident staff for their information.

What Are the Initial Steps in Furnishing a New Hospital Wing?

Many superintendents have had their joy over the completion of a new hospital building somewhat dampened by the sudden realization of the magnitude of the problem of furnishing the addition. THE MODERN HOSPITAL has been asked to suggest, briefly, the best method of going about this problem of furnishing a new hospital.

In the first place, the furnishings of a new building must be appropriate to its architecture and its expected clientele. The total amount of money to be spent should be next decided upon. Competition usually brings about a reduction in this cost. If time is available, it is a good plan to request that certain standard articles be furnished to the hospital several months before bids are to be requested, in order that the superintendent may inform himself as to whether the claims of the manufacturer can be practically demonstrated. Recently, a new child's bed was put on the market. A hospital superintendent desiring to furnish a new children's building, obtained such a bed and placed it in use in his children's department. An active youngster was placed therein, and before a day had gone by, this child had released the safety latch, lowered the side and fallen out of bed. Prior to this event, the claims of the manufacturer had been that no child, no matter how much of a magician he might be, could, without aid, release himself from this crib.

Other equipment, such as ice boxes, sterilizers, stretchers, linen trucks, can well be tested before purchases on a large scale are made. Sometimes at the conclusion of such a test, when competition is not thought advisable or necessary, the hospital places its order.

In other instances, specifications are next drawn up, describing in a minute way the articles desired, referring to samples when they are available, or to photographs when the actual article cannot be secured. Competitive bids are then asked, and the equipment is ordered upon the consideration of quality rather than upon the lowest price to be secured.

It is of course presupposed that the superintendent has visited hospital conventions and the newer hospitals in order to inform himself concerning recent developments in hospital equipment. Hospital supply houses are often willing to furnish a ward without obligation to the institution, in order to demonstrate the advantages of their goods. Next to securing the experience of other hospital executives, the actual use of articles that are being urged for purchase, is the most reliable and trustworthy method of preventing mistakes in buying.

One of the operating rooms at the new Mount Morris Park Sanitarium, West 123rd Street, New York City.

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K E R A M I C T I L E S

NEWS OF THE MONTH

Standardization of Thermometers Takes Effect in October

At a general conference of manufacturers, distributors and organized users of clinical thermometers, held under the auspices of the commercial standards unit, bureau of standards, U. S. Department of Commerce in the offices of that department in Washington, D. C., written acceptances for standardization of the clinical thermometers were received by the department from at least 65 per cent of those represented at the meeting.

As a result of this conference, this standard was formally approved, and it was agreed that production of new thermometers under this standard would begin October 1, 1928, and that one year from the date of the meeting (March 30, 1929), would be allowed for clearance of manufacturers' existing stocks.

The manufacturers present at the meeting stated that the industry was determined to market only accurate clinical thermometers, and to this end each thermometer would be certified by the manufacturer to the purchaser, as complying in all respects with the approved commercial standard adopted.

Health Associations to Hold Joint Meeting in Chicago

The fifty-seventh annual meeting of the American Public Health Association is to be held in Chicago, October 15 to 19, with headquarters at the Stevens Hotel. Two other national health organizations, the American Child Health Association and the American Social Hygiene Association will meet jointly with the Public Health Association.

A number of eminent leaders in the public health field have been engaged as speakers for the convention, and their subjects will deal with the outstanding public health problems in small communities and rural districts as well as in large cities.

Many Improvements Planned for Minneapolis Hospitals

An investigation that has recently been completed shows that plans have been made for the expenditure of over $4,000,000 on hospital buildings in the northern middle west states this summer. Of this sum $3,400,000 will be spent in Minneapolis, while the remainder will be spent in cities in North Dakota, Iowa and Wisconsin.

The Minneapolis program includes a $900.000 three-unit addition to the University of Minnesota Hospital, funds for which have been provided from the $2,000,000 gift of William Henry Eustis, former mayor of that city; a $300,000 nurses' school and dormitory for the Fairview Hospital, an $800,000 nurses' home and a two-wing addition to the present building at St. Andrew's Hospital, a $400,000 nurses' home at St. Mary's Hospital; a $500,000 addition to the Swedish Hospital, and a $500,000 five-story addition to the Abbott Hospital. The Asbury and Riverview Hospitals are also planning small additions.

Improvements outside of Minneapolis include a $25,000 addition to the United States Veterans' Bureau Hospital at Fargo, N. D.; an $80,000 addition to St. Mary's Hospital, Columbus, Wis.; a $100,000 addition to St. Saviour's Hospital, Portage, Wis.; a $182,000 county sanitarium at Hickory Grove, Wis., and a $50,000 municipal hospital at Manchester, Ia.

Herman Kiefer Hospital Nearing Completion

The new unit of the Herman Kiefer Hospital, Detroit, Mich., being constructed at a cost of $3,000,000, is nearing completion. The 500 beds being provided in the new addition will raise the total capacity of the hospital to 1,100 beds.

The institution is operated by the Detroit Health Department, and the first floor of one wing of the new unit will be devoted to laboratory space. This will be one of the best equipped public health laboratories in the country.

Tuberculosis and cancer clinics will occupy the remainder of the first floor, and heliotherapy and operating rooms will occupy the top floor. The building will be six stories in height, with only private and semiprivate rooms.

New 300-Bed Hospital Planned for New York

Alterations are being made on a building in New York City, formerly known as Hudson Towers, and it is expected that early next year it will be ready for operation as a private hospital. The work is being carried on by the Alta Vista Terrace Corporation, and the hospital, which will be a 300-bed institution, will be known as Alta Vista Terrace.

Furnishings and decorations of luxurious type will be provided and radios will be installed in every room and some of the rooms will open on beautiful terraces and balconies. There will be twenty semiprivate rooms, 175 private rooms and 105 two- and three-room suites.

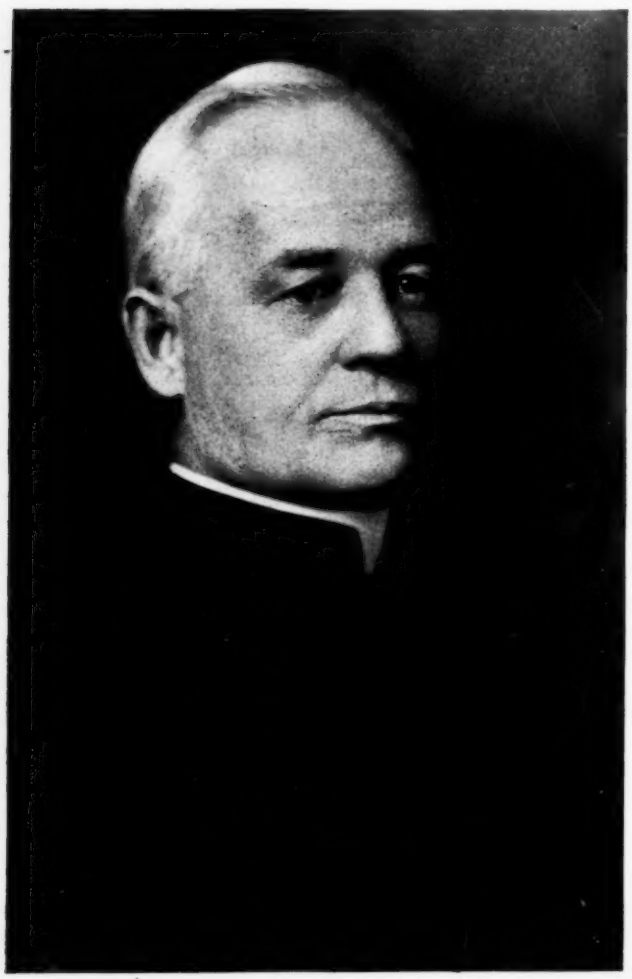
A lobby will be two stories in height and here will be found a drug store, flower shop and guests' dining room. Lockers, showers and rest rooms will be provided for members of the staff. The maternity department and solariums will receive special attention. The building is twenty-three stories in height. Officials of the corporation state that room rates will be comparable to those of some of the better class hotels.

Among the Associations

Striking Exhibit Staged by Catholic Hospital Association

ONE of the most successful meetings ever held by any hospital association was staged at the Cincinnati Music Hall, Cincinnati, by the Catholic Hospital Association, June 17 to 22, with an attendance of superiors, department heads and nurses from Catholic hospitals, as well as many superintendents and hospital trustees from institutions other than Catholic.

The meeting opened on Monday morning with Mass and a visit to the exhibit hall. The hall was filled with exhibit booths and was the largest exposition of its kind ever held by the association. Besides the regular booths on the main floors of the hall, one entire section in the balcony was devoted to a display of furniture and equipment, typifying beauty in the hospital. This section attracted great crowds during the five days of the meeting and undoubtedly will do much toward the improvement of hospital rooms, corridors and other parts of the hospital. Color schemes were worked out so that complete harmony was shown.



Rev. C. B. Moulinier.

Another section was given over to the complete equipment of the kitchen and here, too, the idea was to show the latest improvement in kitchen methods and equipping.

The Opening Session

The first regular session was held on Monday afternoon in the auditorium when there were addresses of welcome and responses, the presidential address by Father C. B. Moulinier and talks by two speakers.

Hospital visitation played an important part in the meeting and all of the hospitals of Cincinnati joined in welcoming the executives on these occasions. Much praise should go to the local arrangements committee for the

Dr. A. C. Bachmeyer.

Bread *IS* the Staff of Life

Bread is Food for Both Sick and Well

THE scientist tells us that bread, because of its nutritive qualities and its low cost, may well be the foundation of the healthy diet, which should also include such foods as meat, fish, fruit, cereals, vegetables and dairy and poultry products.

Bread is important because it furnishes necessary heat and energy for our bodies in easily digestible form and because it is the most economical source of these elements.

Bread is a fundamental part of our daily diet despite the false teachings of food faddists and fakers.

White bread, made with milk and yeast, furnishes the body with proteins of high quality which provide the necessary supply of nitrogen for the maintenance of metabolism. It is rich in carbohydrates, which furnish heat and energy, and, through the milk, supplies calcium, which is one of the chief minerals needed for the development of bones and teeth. The milk and yeast added to the flour are also important sources of Vitamin B. Moreover, white bread is easily digestible, the nutritive elements being quickly and easily assimilated by the body.

The purpose of this statement is to present scientific facts to offset misleading statements by food fakers. This statement has been submitted to and approved by a group of disinterested competent investigators in the field of nutrition, selected by the editor of The Journal of the American Medical Association. These investigators include Professors GRAHAM LUSK, E. V. McCOLLUM *and* LAFAYETTE B. MENDEL.

(For complete information on nutrition see books written by these authorities.)

Bread is the Great Carrier of Other Foods

To aid the qualified doctors, dentists, dietitians and nurses in correcting misinformation spread by food faddists, "The Facts About Bread and Its Rightful Place in the Diet" has been published. This little booklet is a compilation of opinions of our leading nutritional authorities and will prove valuable to anyone interested in the subject of diet. Send for it today

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LEARN FACTS ABOUT BREAD

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Among the Associations

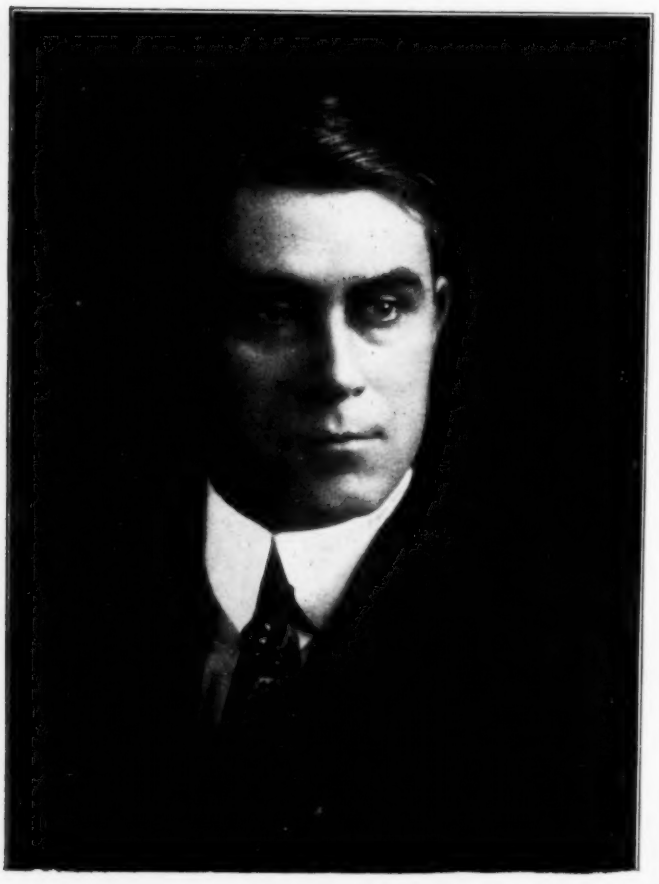
manner in which their part of the convention was planned.

Monday evening the first session of the International Guild of Catholic Nurses was held at the Music Hall, when Lyda O'Shea, president of the guild, presided. Other sessions were held by the guild on Tuesday evening and Wednesday evening, when the banquet was held. All of the guild meetings were under the direction of Rev. Edward F. Garesché.

The general scheme of the convention was the division of the sessions into clinics at which various authorities spoke. Architecture, administration, x-ray, laboratory, physical therapy, surgery, obstetrics, dietetics and other general clinics were held. While there were some difficulties in holding these meetings simultaneously in different halls, generally the scheme seems to have been worked out to the satisfaction of most of those present.

One of the striking features of the meeting was the large number of charts that were posted in every part of the hall. These, together with illustrations of various parts of hospitals, added interest to the meetings and aided greatly in visualizing the talks that were given.

Several of the local manufacturers gave luncheons, dinners and inspection trips through the plants, and these were largely attended. Rev. Father Alphonse M. Schwitalla, S.J., dean of the medical school, St. Louis University, St. Louis, Mo., was elected president for the ensuing year and Rev. Father C. B. Moulinier, executive director of the association.



Dr. M. T. MacEachern.

Royal Free Hospital, London, Celebrates Centennial

Up to the time of the founding of the Royal Free Hospital, London, England, which is celebrating its one hundredth anniversary, there had been a great deal of red tape connected with the admission of a patient. A medical philanthropist, William Marsden, realized the difficulties and disadvantages of this system, having seen a number of patients turned away from the doors of the institution. He decided to found a free hospital which would be open to all the sick who were in need of hospital treatment.

At first only a small building was available, but soon it became possible to enlarge the institution and the present site was chosen. The buildings at the present time occupy nearly an acre of ground and have beds for about two hundred and fifty patients. However, the scope of work covered, and the ever increasing demand for hospitalization have become so great that further expansion is necessary, and a recent request for contributions toward a building fund was met by Charles Eastman, Rochester, N. Y., who gave $1,000,000. This will be used in the construction of a great dental clinic, but $500,000 more will be required to endow the institution. Part of the endowment fund has already been provided by Lord Riddell and Albert Levy, treasurer of the hospital.

Hospitals Adopt Group Insurance Programs for Employees

Within the last ten months, ten hospitals and health organizations have adopted group insurance programs for the benefit of their employees through contracts with the Metropolitan Life Insurance Company. The most recent addition to this list is the Mercy Hospital, Pittsburgh, Pa. Through the joint payment of premiums by the hospital and its employees, more than $110,000 of life insurance has been established for the employees.

Contributing employees each receive $1,000 of life insurance, and total and permanent disability benefits. In the event of complete disability before the age of sixty years, employees will receive the full amount of their life insurance in monthly installments.

Resigns Superintendency After Twenty-Four Years' Service

The resignation of Sara Burns as superintendent of the New York Skin and Cancer Hospital, New York, after having served twenty-four years at that institution, has been announced. No statement concerning Miss Burns' plans for the future has as yet been made.

In 1904, when Miss Burns first came to the hospital, there was a bed capacity for sixty patients, and a daily average of thirty patients in the dispensary. In 1927 the hospital had enough beds to care for 100 patients, and during the year 133,301 patients were treated in the outpatient department.

Personals

DR. O. R. LYNCH, formerly superintendent of the government hospital at Northport, Long Island, has been appointed to succeed the late DR. SAMUEL DODDS as superintendent of the Northern Indiana Hospital for the Insane, Logansport, Ind.

WILLIAM E. PROFFITT is relieving KATHERINE M. DANNER as superintendent of the Deaconess Hospital, Buffalo, N. Y. Miss Danner is leaving to take charge of the Hanover General Hospital, Hanover, Pa., where Florence W. Junkins was formerly superintendent.

MYRA B. CONOVER has succeeded SARAH G. BURNS as superintendent of the New York Skin and Cancer Hospital, New York.

MARIE J. ROBERTSON who has been affiliated with the Jamestown General Hospital, Jamestown, N. Y., since its opening fifteen years ago, has resigned her position as superintendent.

RUTH S. WOODRING, formerly superintendent of the Aultman Hospital, Canton, Ohio, has been appointed to succeed PETER L. BULIND as superintendent of the Unity Hospital, Brooklyn, N. Y.

DR. HARRY E. CARSON, formerly of the U. S. Veterans' Hospital, Perry Point, Md., has been appointed to succeed COL. R. W. SOPER as officer in charge of the Fort Mackenzie Veterans' Hospital, Sheridan, Wyo. COL. SOPER has been transferred to the Veterans' Hospital, Augusta, Ga., where he will relieve DR. M. C. BAINES.

MRS. LAURA ASHMORE has resigned her position as superintendent of the Galesburg Cottage Hospital, Galesburg, Ill., and her place has been filled by MRS. GENEVIVE HILGER.

DR. JOHN A. RAYBURN is the new superintendent of the Natchez Charity Hospital, Natchez, Miss., succeeding DR. J. C. MCNAIR.

DR. CHARLES JOHNSTONE has accepted the superintendency of the Colver Hospital, Colver, Pa., filling a vacancy left by DR. A. W. BEATTY.

DR. JOHN A. DILLON, formerly president of the Kansas State Medical Society, has been appointed superintendent of the State Hospital for the Insane at Larned, Kan., to succeed DR. WILLIAM STOUT.

DR. E. L. SANDERSON has been appointed successor to DR. J. M. MOSELEY as superintendent of the Shreveport Charity Hospital, Shreveport, La.

DR. JOHN S. KNIGHT has accepted an appointment as assistant superintendent at the Kansas City General Hospital, Kansas City, Mo.

ANNA RIBERKOF has been engaged to take the superintendency of the Monticello Hospital, Monticello, N. Y., made vacant by the resignation of FRANCES MCNEELY. Miss Riberkof has had two years' experience as superintendent of the Brooklyn Jewish Maternity Hospital, Brooklyn, N. Y., and was superintendent of nurses at the Beth Israel Hospital, New York, for several years.

MRS. MARIE E. LINDER, as superintendent, and NORMA PETERS, as director of nurses, will undertake the management of the Graham Hospital, Keokuk, Ia., following an entire reorganization of the staff and the board of trustees of the hospital. Mary C. Jackson was formerly superintendent of that institution.

DR. JOHN W. SPECK has assumed the duties of superintendent of the Michigan State Prison Hospital, Jackson, Mich., following the resignation of DR. R. A. MCGREGOR, who was formerly superintendent.

MRS. J. K. MARSHALL has been appointed to succeed ALICE MORSE as superintendent of the Rutherford Hospital, Murfreesboro, Tenn. Miss Morse is leaving to continue her studies in hospital work.

EDITH GARDNER, R.N., has accepted the post of superintendent at the Amarillo General Hospital, Amarillo, Tex.

HARRIET P. DUNLAP, formerly head nurse at the Presbyterian Hospital, New York, has been appointed superintendent of nurses at the Hinton Hospital, Hinton, W. Va.

DR. B. RUSH FIELD, superintendent of the Easton Hospital, Easton, Pa., has tendered his resignation and will be relieved as soon as someone can be found to take his place.

DR. THOMAS F. JOYCE, recently retired from the New York City Department of Health, will assume the duties of superintendent at the State Narcotic Hospital of California, Pomona, Cal., when that institution opens in July.

DR. EARL B. MILLER has resigned as director of the Adams County Tuberculosis Sanatorium, Quincy, Ill., and the hospital is being managed by a staff of doctors pending the appointment of another director.

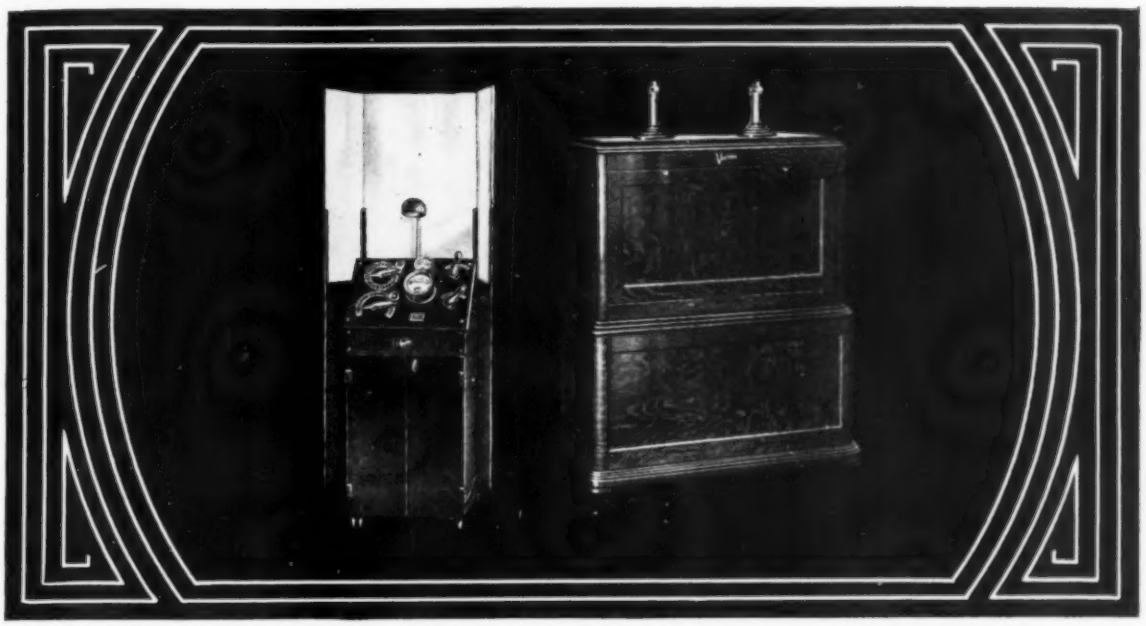
DR. PHILIP GATH has resigned as assistant superintendent of the Hamilton County Tuberculosis Sanitarium, Cincinnati.

DR. H. H. LANGDON has recently accepted the appointment as assistant superintendent of the Cincinnati General Hospital, Cincinnati. DR. LANGDON was formerly a staff physician at that institution.

DR. ABRAHAM FLEXNER has resigned as director of the division of studies and medical education of the General Education Board of the Rockefeller Foundation. Dr. Flexner has been associated with the General Education Board for about fifteen years.

L. A. SANDERS, superintendent, West Texas Baptist Sanitarium, Abilene, Tex., has withdrawn his resignation at the request of the board of trustees and will remain as superintendent of that institution.

DR. JOSEPH BOCH, formerly assistant superintendent, National Jewish Hospital, Denver, has been appointed superintendent of the Ex-Patient's Tubercular Home in that city. He will relieve DR. A. M. BLUMBERG, secretary of the home, of the executive responsibilities which Dr. Blumberg had temporarily assumed.



Who Would Trade in a Snook?

An extract from a report by a Victor representative, following his call on one of the largest clinic in the country:

"I just returned from ——— clinic and find the *Snook* Transformer that was installed in 1924 grinding out as strongly as ever. On Tuesday they ran two hundred chests, which called for four hundred exposures.

"I want to call your special attention to their 100 M. A. Coolidge Tube which they have been using on their *Snook* machine not quite a month. Radiographs of 3695 patients, or a total of 7308 exposures, were made with this tube and it is still going strong."

To give such consistent service a machine must be correct in design.

A FEW months ago a Victor representative called on a physician who for several years had been using a *Snook* machine in his completely equipped X-ray laboratory.

This physician, being successful both professionally and financially, had come to the conclusion that inasmuch as he turns in his auto every other year or so, to get the advantages of the latest model, it was high time that he turned in his *Snook* for the same reason. The idea was soon dispelled, however, when the doctor was informed that even though he had purchased his *Snook* ten years ago, it would be equal to all demands of present-day technic in radiographic diagnosis.

The *Snook* stands alone in this respect, and users in all parts of the world attest to the economy of their original purchase, also to the advantages in having a machine with which they can produce radiographic results second to none, and continue to do so *consistently*.

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A GENERAL ELECTRIC ORGANIZATION

News of the Month

Massachusetts General Hospital Needs Funds

The trustees of the Massachusetts General Hospital, Boston, according to a report in a recent issue of the *Journal of the American Medical Association*, are attempting to raise an annual sustaining fund of $200,000, in order to enable the institution to meet its annual deficits.

The hospital's records show that during the year 1927 the per capita cost for treating each patient was twelve cents less than it was the preceding year. The hospital treated on an average 144 patients a day, free of charge; 143 patients a day who paid small amounts, and eighty-three patients a day who paid the regulation charges. The out-patient department had, during the year 1927, 31,871 new patients. The receipts from the general wards amounted to $330,987, while the cost of operation was $819,092. The receipts in the out-patient department were $104,020, and the cost of operation, $177,731. There was a deficit of $90,000 for the year.

The hospital receives no support from the state. The hospital needs additional material resources, a new ward building, and a central clinico-pathologic house, in order to carry on its educational and research work.

Grasslands Hospital to Be Enlarged

The board of supervisors of Westchester County, N. Y., has voted approval of the construction of two additional buildings to the plant of Grasslands Hospital, Valhalla, the county hospital. One of these buildings will be used as a psychiatric institute and observation ward for the county and the other will provide entirely new facilities for the care of tuberculous patients. The total program will involve the expenditure of approximately $1,500,000. and will add 300 beds to the institution, which, when the buildings are completed, will have a capacity of 800 beds. The architects are Walker and Gillette, New York, and the consultant is Dr. C. W. Munger, director, Grasslands Hospital.

California Children's Hospital Has Attractive Features

The opening of the new addition to the Children's Hospital, Los Angeles, Calif., brings to mind a time about twenty-seven years ago when a group of women got together and organized the Children's Hospital Society, the first charitable organization in Southern California to provide for the care of sick children. During the first year of operation fourteen children were admitted to the hospital. Of this number, eleven were discharged as cured. During last year, 9,507 patients were admitted, 2,684 being cared for in the beds of the hospital and the remainder in the free clinic of the out-patient department.

In 1927, 34,517 days' care was given to patients in the hospital, and 44,339 visits were made to the clinics. More than half of the work done by the hospital was charity work, and of the remainder all but 1.7 per cent was part pay.

The new wing will provide the hospital with 149 additional beds. It has a hydrotherapy department, a large gymnasium, a physical therapy department and a solarium. The roofs of the new buildings are surrounded with glass windows so that it is possible for the children to remain in the sunshine all day long. The solarium is provided with a diet kitchen so that meals may be served in the sunlight.

Move to Build Hospital for Negroes in Chicago

Hospital facilities for colored people in Chicago are limited, as about one-third of the hospitals in the city have restrictions against the admission of Negroes. With less than one hundred beds available in the several all-colored hospitals in the city, need for the new $1,000,000 institution recently sponsored by Cardinal Mundelein has been greatly emphasized.

Dr. Arthur F. Abt, president of the Chicago Medical Society, speaking before a meeting of colored doctors and nurses, pointed out that from 1910 to 1920 there had been an increase of 148 per cent in the colored population of Chicago, without any increase in hospitalization. The increase since then is undoubtedly enormous. It is estimated that at least seven hundred beds would be required to care adequately for Chicago's colored sick people. The colored infant mortality in Chicago is 136.7 per 1,000 population.

Desert Sanatorium to Have Research Unit

Realizing the immensely greater possibilities of aiding sufferers from illness through medical research than through actual treatment, directors of the Desert Sanatorium, Tucson, Ariz., have provided $250,000 for enlarging facilities for the treatment of patients and to establish a research institute.

A research plant costing $175,000, provided with modern laboratory equipment, an additional kitchen, a dining room and help's quarters, a new residence for the medical director, physical therapy departments, and recreational facilities are included in the improvements that are being planned.

During the sixteen months since its opening, the institution has grown so rapidly that a complete reorganization has been necessary.

The new building will be of the Hopi style of architecture, conforming with the other structures, and will be built in the form of a square, with a patio in the middle.

Work has already started on one of the new buildings, which will be used for giving physical therapy treatments. It will be equipped with a heated pool and treatment rooms.

For complete index of advertisements refer to the Classified Directory

News of the Month

Alberta Hospital Association Meets at Calgary

The annual convention of the Alberta Hospital Association was held in Calgary, June 25 and 26. Dr. A. H. Baker, superintendent, Alberta Central Sanatorium, Robertson, presided.

There was a splendid exhibit of hospital supplies, this being the second year in which this sort of thing had been attempted. The exhibitors expressed themselves as well satisfied with the results achieved, and stated without exception that the efforts put forth to effect the set-up had been well worth while. Several of the hospitals had exhibits.

Dr. D. Gow, superintendent, Calgary General Hospital, introduced the subject of the grading of hospitals with a view to a more equitable division of the per capita per diem grant. The speaker was of the opinion that the provincial government should classify hospitals with special reference to equipment and the nature of the work undertaken. He pointed out that it was preeminently unfair for a hospital that was providing only the bare necessities for treatment to be allowed the same per diem grant by the government as one which had gone to the expense of setting up more elaborate scientific apparatus.

Impressive Papers Presented

"The Responsibility of the Hospital to the Surgeon and of the Surgeon to the Hospital" was dealt with in an effective manner by Dr. D. S. McNab, Calgary. He laid special emphasis on the desirability of the operating room service providing a graduate nurse, thoroughly competent in surgical technique, to be in charge of each major operation. He expressed the hope that the time would soon be here when each hospital would have a competent staff of interns.

Dr. T. R. Ross, Drumheller, spoke on the subject "The Contribution Made by the Municipal Hospital to the Professional Success of the General Practitioner." Dr. Ross has for years had a large practice in the country, and has been privileged to treat his patients in one of the many rural municipal hospitals. He spoke in praiseworthy terms of the splendid work that these hospitals are doing.

Allan Fraser, Calgary, a layman who has for years been interested in hospitalization, outlined what he considered the hospital should furnish the patient for the per diem rate. Mr. Fraser was of the opinion that whether the patient could pay or not, all services in the institution should be available to him and that extra charges should be kept at a minimum.

The question of the desirability of establishing a health inventorium was introduced by Dr. A. E. Archer, Lamont. The speaker thought that the time had come for hospitals to take a more active part in preventive medicine, and he was of the opinion that the health inventorium was one of the ways in which this could be most readily done. He stated that if people could be periodically examined a great deal of sickness might be prevented.

Dr. M. R. Bow, deputy minister of public health for the Province of Alberta, gave an interesting and inspiring address on "The Advantages of Full Time Service in Public Health Work."

A committee appointed at the 1927 convention to look into the question of the desirability of training pupil nurses in the care of mental and tuberculous patients reported that in its opinion it was desirable and necessary that all nurses before graduating be given a reasonable amount of training in these two branches of work.

Mrs. J. Gibson, George McDougall Hospital, Smoky Lake, read an interesting paper on "Some Problems of the Small Hospital on the Frontier." The hospital with which Mrs. Gibson is associated is situated in a large colony of new Canadians, and she gave an interesting account of patients whose cases had been long neglected. She cited one case in particular of a small boy who was suffering from a compound fracture of the leg.

Dr. H. R. Smith, superintendent, Royal Alexandra Hospital, Edmonton, gave a short address on "The Cost of Sickness." The speaker reminded the delegates of the well known fact that the cost of medical service and of hospitalization has increased markedly in the last twelve or fifteen years, and many patients of moderate means are finding it difficult to meet their obligations. He suggested that measures for the permanent relief of this state of affairs must have as their basic principles (1) a cooperative scheme whereby citizens when well would contribute to a fund that could be used for their mutual benefit when sick, and (2) the coordination of all health services including hospitalization, nursing and medical care and preventive health activities.

The convention of the Alberta Association of Registered Nurses and of the Alberta health officers was held at the same time as the meeting of the hospital association. On Monday the graduate nurses of Calgary gave a luncheon to the delegates of the three associations at the Palliser Hotel at which Mayor Osborne of Calgary gave an address.

The convention adjourned to meet again in the year 1929.

Coming Meetings

Colorado Hospital Association, Incorporated.
President, Dr. Maurice H. Rees, University of Colorado, School of Medicine, Denver.
Executive Secretary, Frank J. Walter, Colorado General Hospital, Denver.
Next meeting, Woodmen, Colo., Sept. 11, 1928.

American College of Surgeons.
President, Dr. George David Stewart, New York.
Director General, Dr. Franklin H. Martin, 40 East Erie street, Chicago.
Next meeting, Boston, Oct. 8-12.

American Dietetic Association.
President, Florence Smith, St. Mary's Hospital, Rochester, Minn.
Business Manager, Dorothy B. Richmond, 25 East Washington Street, Chicago.
Next meeting, Washington, D. C., Oct. 30-31 and Nov. 1.

American Public Health Association.
President, Dr. Herman N. Bundesen, Chicago.
Executive Secretary, Homer N. Calver, 370 Seventh Avenue, New York.
Next meeting, Chicago, Oct. 15-19.

Ontario Hospital Association.
President, R. H. Cameron, Women's College Hospital, Toronto.
Secretary-Treasurer, Dr. F. W. Routley, 410 Sherbourne St., Toronto 5.
Next meeting, Toronto, October 18, 19.

NURSING AND THE HOSPITAL

Conducted by M. HELENA MC MILLAN, R. N.,
Director, School of Nursing, Presbyterian Hospital, Chicago

The Importance of Selecting the Right Nursing Personnel

By Mrs. ETHEL P. CLARKE
Director, School of Nursing, Indiana University, Indianapolis

WHETHER the turnover in the nursing profession is greater than in other professions for women I am not sure. We do know, however, that nurses are changing positions with too great a frequency for the best interests of nursing schools.

A stable organization means a reduction of overhead, for whenever changes in personnel occur they occasion certain loss, whether it be in such simple things as the ordering of ward, office or teaching supplies, or in impairment of efficiency, which either frets those concerned or for which gracious allowances are made. The clinical staff is conscious of the difference; the surgeon fails to find his pet instrument sterilized for a certain operation; the internist who likes to make rounds according to a certain method finds things arranged a little differently when he comes to take a clinic; the lecturer who prefers a particular room and some pet charts for demonstration fails to find them in place when he begins the course.

We are all familiar with interns who seem to think it their duty to discover immediately just the stuff of which a head nurse is made, and many think it necessary to step over the line a bit to see what she may do. On the other hand it is difficult for them to get their work done rapidly and efficiently, whether in the operating room, the wards, or the busy admitting room, when the nurse in charge is not entirely familiar with the routine of the hospital.

If graduate nurses on the staff resign frequently the effect on the other graduates is not good. They immediately begin to wonder "why she left" and "if she had a cause for dissatisfaction." It is not unlikely that they may begin to look around to find out what troubles they have, and so a general feeling of unrest prevails, which is unwholesome for the staff and the nursing students.

We all want our students to grow up with the idea that positions in our organization are immensely desirable, and to look forward to the day when they may hold these or similar positions in other schools. While we are agreed that it is not ethical for a graduate nurse to voice her dissatisfaction to any student, nevertheless if dissatisfaction is general among a staff we may be sure that the students will know something about it.

When we begin to search for the reasons causing excessive turnover in the nursing staff, it is not easy to indicate them with any great degree of certainty. Some will tell you that the living quarters are not as comfortable as they should be; that the opportunities for social life are too limited; that the hours of duty are too long or not well arranged; or that the salaries are too low.

My experience has taught me that these things are not essentially true. I have held my position for more than twelve years. Our housing conditions have not been satisfactory. The first few years they were very difficult, as a large group of the nurses had to live in a house ten or twelve blocks from the hospital and not desirable in itself. They had to come back and forth in a bus, and if they were late for the bus schedule they had to wait to go home until the next time of leaving, because we did not allow them to walk in uniform.

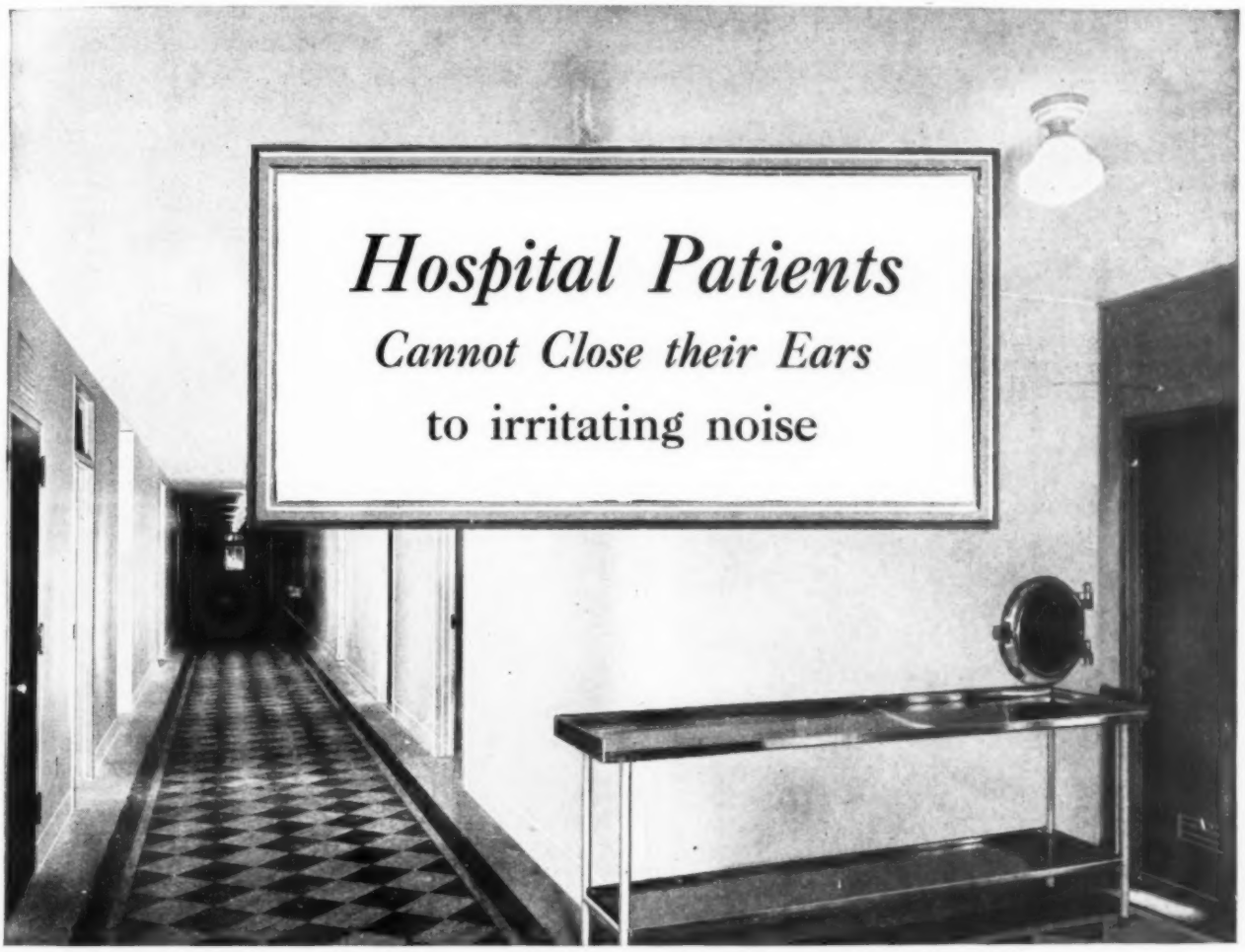
I believe it is true that in some of our best schools the salaries are not high. I know this has been true in our own organization, but our turnover has been very low. My assistant and my chief operating room supervisor have been with us more than twelve years, and other assistants have been with us from three to eight years.

University Extension Work Helpful

I believe the chief factors in holding a group of graduate nurses together are a clean, wholesome atmosphere, an attitude of mutual respect and consideration, *esprit de corps*, opportunities for trying out new ideas and for individual growth and development. If you can induce graduate nurses to take courses in university extension work it will undoubtedly be helpful to them. It takes them away from their work, broadens their viewpoint and gives them a consciousness of doing something that is worth while. Most of our cities offer such courses through some college or normal school.

When we must find a new person to fill a position, I believe it is wise to make a study of the position. What is its relation to the whole organization? With what groups will the individual necessarily have contacts? Will her work bring her in touch with the medical superintendent, with the chief dietitian, with the bookkeeping department, with the head of the social service depart-

The ceiling of this corridor at the Harper Hospital, Detroit, Mich. (Albert Kahn, Architect) blots out disturbing sounds because it is covered with Johns-Manville Sound Control Material which silences reverberations and echoes.



"We can put out the light and we can close our eyes, but there is no satisfactory way of closing our ears to extreme stimulation, and noises in the street or building act on the brain and prevent sleep."

—Dr. Lewellyn F. Barker, Prof. of Medicine
Johns Hopkins University

NOISE must either be eliminated at its source or side-tracked en route to the patient. Johns-Manville Acoustical or Sound-absorbing Treatment is the most effective method so far devised for absorbing from 60 to 80 percent of the necessary and unnecessary noises in hospitals.

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ment? Is the position particularly desirable? These points should be estimated as honestly and accurately as possible. If the position is desirable our task is much easier. If it has certain definite drawbacks we should recognize these and endeavor to find some desirable elements that will serve to counterbalance the drawbacks.

Many positions in schools of nursing have two definite phases—the executive side, which chiefly concerns the hospital and its efficient management, and the teaching side, which is concerned with the teaching of nursing students. Of course we are looking for the women who can harmonize these two phases. It is not uncommon for us to find ourselves with a position to be filled, and in seeking for a candidate we are conscious that the possibilities of the position have not been recognized or understood by the nurse who previously filled it. We should have these possibilities clearly in mind in order that in our search we may seek for a nurse who will be eager to make the most of the opportunities offered, whether it be that the position holds a special teaching field or is a stepping stone for promotion, or whether it is helpful in broadening general nursing experience, or offers a particularly attractive salary. Because we are not dispensing our own funds but the funds of the institution we are serving, it is important that we obtain the best possible service for the money expended. It is not enough to fill the position in question; we must fill it as well as may be under the circumstances.

How to Get Candidates

There are various means of securing candidates for a position. My experience has led me to believe that it is wise to write to a number of the schools that are particularly strong in the field of work under consideration, telling them frankly the sort of person needed, something of the work that she will be expected to perform, and the salary that will be offered. I also write to professional friends in this part of the country. If it is a position of instructor or an executive assistant who will carry much responsibility I believe it is well to place your needs before Teachers College, Columbia University, New York, and the National League of Nursing Education. While these organizations may not always have a person to recommend, nevertheless it gives your need a certain publicity and you may get results indirectly. This will probably mean writing ten or twenty letters in the beginning, and in a week or two you can expect to receive replies and perhaps suggestions and applications.

When getting in touch with possible candidates it is important to study carefully those who seem eligible. The preparation of the nurse is of great importance. We should know accurately her academic preparation, when and where she went to school, where she secured her professional training, what was her standing in her school, and what is her standing in her alumnae association. It is important to know her age, and in many cases it is necessary to know her religious affiliation. A knowledge of her professional experience is essential, and the type of school in which she has been employed and the degree of satisfaction with which her services were received, should be ascertained. The organization of schools of nursing varies widely, therefore it is necessary to have some understanding of the type of organization with which the candidate has been previously associated. It is not often that a nurse who has perhaps served acceptably in a medium sized, private hospital is able to adjust herself quickly to the needs of a large hospital or group of hospitals, whether they be owned by a private corporation, by a city or by a university.

Since our chief aim is to make real nurses of our students—nurses in mind, body and spirit—it is essential that we know whether the candidate is a really good nurse in a broad sense. It is important to learn the salary that was previously received, as most women expect some increase when changing positions, unless opportunities and environment in the new position are sufficiently good to make up for some small decrease in salary. Our finest women will not permit salaries to influence seriously their decision as to whether they will accept a position, but the workman is worthy of his hire, and it is not fair to penalize an individual because her ideals and altruism are guiding factors in her decisions.

In considering any candidate we must of course have references from individuals and organizations with which she has been previously associated. Although a woman may be a success in one position and not very successful in the next; yet there are certain basic qualities that are essential. Unfortunately many people regard too lightly the matter of writing letters concerning individuals who have been in their institutions. We all know what an easy and pleasant thing it is to write nice things about an individual; but that is not the whole story. Many of us have suffered by receiving flowery letters of recommendation about a nurse who really has not merited them. If there has been a gross reason for failure it should be stated frankly; if the reason for failure is more intangible, surely enough should be stated in the letter or interview to lead the person considering the employment of the individual to investigate further. This is particularly true when the weakness is in personality rather than actual performance of duty. We may be mistaken as to an individual's possibilities in a given situation, but if we give the matter careful consideration and then are entirely honest in our statements we can have nothing to regret.

The investigation of personality is a different matter. Some qualifications are essential for a good nurse, others are most desirable. Any nurse whom we take on our faculty or on our staff has many contacts with nursing students, and since the best way to teach ethics is to live ethically, it goes without saying that any candidate considered must have unquestionable moral standards. She must be honest and true in all her dealings, with a fine self-respect and integrity.

Nurse Must Be Adaptable

All institutions are becoming increasingly complex, therefore a desire to cooperate with the entire organization is important. The best schools are seeking graduates of schools of similar standing with the hope of acquiring valuable elements for their school. No school, however, can stand a lot of new methods introduced indiscriminately, and a nurse who accepts a position should understand that if she goes to the school she must accept its standards, though doubtless at proper time she will have ample opportunity to work out adjustments that seem desirable.

Our young people are given much freedom in their very early years, so that when students come to schools of nursing we are expected to administer the discipline that they should have had fifteen years before. This is not an easy matter, but it is important that members of the faculty and of the staff have a fine personal attitude and are able to preside with grace and dignity whether on the ward, in the class room or in social affairs. All of our graduate nurses need to have a teaching attitude. We expect to find it among those who are directly concerned with class room teaching, but it is

also important for those occupying executive positions to be able to see the teaching values in the everyday work of the wards and use these to the advantage of the students. Any graduate, whether head nurse, supervisor of a building or of an operating room who becomes grouchy because her department is very busy is a nuisance. Her attitude is immediately reflected in the students and they become incapable of doing the best work.

We are accepting very young women in our schools today and we are placing heavy responsibilities upon them. If we are to develop them to their fullest possibilities they must receive firm, patient, sympathetic handling. Many of us are familiar with departments in which our students seem to expand and to blossom, doing splendid work in a happy spirit. Unfortunately it is also true that most of us at some time have seen a department in which the students seemed cramped, uninterested and always in difficulty.

We do not wish to lay too much stress on external matters, but nurses have contacts with sick persons and with young students, therefore it is desirable that any candidate whom we are considering for a position should have a pleasing manner and appearance. She must look fresh and neat and well groomed. Students are much more likely to approve of her if she knows clothes and how to wear them. No professional woman should dress extravagantly, but with care and thought and good taste it is possible for her to be always well dressed. We all know what a comfortable feeling it gives to know that our clothes are right. Then we can dismiss them from our minds.

The success of some positions depends largely upon the ability of an individual in that position to meet the public and to inspire respect and confidence. She must be able to exercise some initiative, to hold her own in a social gathering, and in order to do this general intelligence is required. The day is past when nurses holding important positions may talk only "shop." They must be conversant with good literature, music, art, and the modern trends in education. It is too late to acquire this knowledge when seeking an important position, but we are unwise to place in an important position a nurse who lacks it.

Personal Interview Desirable

It is always desirable to have an interview with a prospective candidate after having corresponded with her. For the higher positions on our faculty I deem such an interview essential. As this person is going to work with us, we should have some idea of how we shall react to her personality, and we can only learn this by meeting her face to face and talking frankly with her. Occasionally we find directors of schools who are a little fearful about bringing big people into their organizations. I think this is unnecessary, because if the person feels that this particular job is what she wants, she will more readily understand that the final decision as to policy must be in the hands of the director of the school, and certainly no director need fear any loss of prestige because of the success of any member of her faculty. The greater her success, the more credit is due to the director.

Having decided upon a candidate, the next step is the reception of the individual and her introduction to the organization. It is wise to have her meet the director of the school within a reasonably short time after her arrival. It gives her a feeling of comfort and assurance to be kindly greeted and to receive good wishes for her happiness and success. She should also be introduced to the other nurses who will be her colleagues.

The adjustment period is often difficult for a new nurse, particularly if the organization is large and complex. She must exercise patience until the feeling of strangeness has worn off, and the other members of the faculty and of the staff should be patient with her at this time. Some of the difficulties may be lessened if her duties are outlined for her in writing with great care. Each organization has certain routines that are peculiarly its own and that have been instituted in order to meet its particular needs. A new nurse needs to be taught these routines with accuracy. Sometimes a careful explanation will show her the reason for them and enable her to carry them out more easily.

Frank Discussion Is Helpful

All of us who have held positions as directors of schools of nursing for any number of years from time to time made mistakes in appointments. We have found that the individual did not develop as we had expected, or had certain qualities that made her a misfit in our organization, and sometimes we have had to suffer considerably by reason of these mistakes. Everybody should have a fair chance, and it is wise to try to adjust the situation as far as may be in order to enable a nurse to make good. Certainly if she seems to be failing to meet the need the matter should be discussed with her carefully and frankly. She should be made to understand that we want her to make good and that we stand ready to do everything in our power to give her the opportunity to do so. Sometimes, after all possible means have been tried, we are convinced that the individual should be replaced. Frequently after she is conscious that she is a misfit she will accept another position and thus eliminate herself, and this is fortunate for all concerned. At other times the matter is dealt with by the director of the school.

If the individual is holding an important position, it is understood that the director will take up the matter with her committee, and have its full understanding and approval before she takes any steps. Many schools make a request for a resignation in writing, and assign as a reason "for the good of the service." I think this is wise. Of course, no director would refuse to discuss the situation with a nurse if she so requests, though even then there is a question as to how much should be said and how wise it is to enter into details. Unless the resignation is requested for some definite, concrete reason these situations are difficult for all concerned, and unless they are to become intolerable they must be dealt with fairly, kindly and courteously. If we have any idea as to how and where the individual might find success it is only right that we should tell her about it and give her any help that we can.

The director of a training school who has a faculty and a staff of twenty-five, fifty, or one hundred nurses undoubtedly has a complex organization. It demands great ability to make it function successfully. A personnel will constantly present subject for study, and it should be studied with a view to making necessary adjustments. Perhaps an individual is not doing her best in a certain department but if shifted to some other position she may shine and be happy and successful in her work. These adjustments should be made with a view to securing greater efficiency. As soon as the members of the group realize that the director is eager for their success, that she is constantly looking for people whom she may promote, that she is giving everybody on the staff full opportunity to do the best work of which they are capable, you may be sure that such a group will

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manifest a fine spirit of loyalty, industry and cooperation. They will be ready to give of themselves lavishly for the well-being of the hospital and of the students. A fine *esprit de corps* will be built up and everybody having contact with the institution will be conscious of it.

The director of the school who is easy-going, unobservant of details, and is not ready to give admonition when needed will not build up a stable organization. To inspire a group of women to feel that they are doing the finest piece of work in the world and would rather be doing it in that particular place than anywhere else demands a director who has the best interests of her subordinates at heart, one to whom they feel free to go to for counsel and advice and to whom they may look up with respect and admiration.

It is a wonderful thing to see a young woman enter a school as a raw student, to watch her grow through her student years and earn the respect of the school, to take her into the organization as a young head nurse for two or three years, and then to send her away for further growth and experience. Later there may be an opportunity to bring her back into the organization to some responsible position and to have the joy of realizing how she has matured and broadened.

Of course our work is strenuous. We have all sorts of demands upon our time and strength at all hours of the day and night. We meet perplexing problems and occasionally heartbreaking ones, but if the director can build up a faculty and a staff that are loyal, happy and eager to work with the best that is in them, if she can win their confidence and affection she has plenty of compensation for her difficulties, and when the time comes for her to lay down the torch she may be sure there will be plenty of younger hands ready to pick it up and "carry on."

Why Not "Educate" the Nurse?

An excerpt from a recent statement by E. J. Taylor, associate professor and superintendent of nurses, Yale University School of Nursing, New Haven, Conn., reads: "I am exceedingly troubled over the attitude our coworkers in the medical profession take, and the fact they seem to resent the effort on the part of nurses to raise the standards of nursing education. It is again a question of recognition of needs, ideals and possibilities, and all that is lacking is a personal insight on the part of many and a dynamic motivation behind the insight to throw the wheels into action and bring some of these ideals to pass."

Instead of using their influence to get a better standard of care for the patients, and bring about a more intelligent nursing service, many members of the medical profession seem to think it is their duty to keep the standard at a level that makes the nurse a technician and a mechanical worker.

The scientific art of professional nursing is now viewed as such an essential factor in so many forms of human enterprise that new and attractive possibilities are presented to the nurse. In order that she may be able to meet her responsibilities, nursing educators must see that students leaving their schools are ready to fulfil the needs of an intelligent community.

Training of nurses should not be attempted in a small hospital, for this handicaps the student because of the limited facilities of the small institution, and it deprives the patients of the careful, thorough and conscientious care that they deserve.

Indications are that in time, great central schools of nursing will develop. These centers of nursing education will present to the students opportunities and advantages that could not be provided at a small institution. It will be possible in these educational centers, to establish certain standard requirements for entrance, and these requirements should be high enough so that colleges and universities will recognize the importance of nursing education and grant it its rightful place in their curricula.

Essentials of Hospital Administration

In a talk to the American Protestant Hospital Association, Luther G. Reynolds, superintendent, Methodist Hospital, Los Angeles, Calif., compared the problems of the hospital administrator with the combined problems of the café man, the grocer, the dry goods man, the hotel man, the school man, the laundry man, the druggist and the engineering force, before the actual running of the hospital for the care of the sick can be considered.

A hospital superintendent must first be able to manage himself. He must be able to make himself do things he dislikes, the hard things and the dirty things. Then he must have the power to make other employees of the institution do the same things without grumbling. He must surround himself with a competent organization, so that the things that he does not himself clearly understand, will be done correctly. The department heads must have, to a certain extent, the power to employ their own aids. To them must be explained the meaning of efficiency, and they must be impressed with the cost of even the most insignificant articles at their disposal.

A spirit of genuine friendship, fairness and frankness should exist between the superintendent and the staff. This will encourage sympathy and understanding which are vital for successful cooperation. The members of the board of trustees should be taken into the confidence of the hospital manager, and problems arising in the management of the institution should be thoroughly discussed.

Another important duty of the hospital superintendent is to make the public realize that when they enter a hospital and pay from three to ten dollars a day for a room, they are not only getting the room, but service, food and professional care, which would cost them at least seven dollars a day in their home, and with all of this they have access to the service of apparatus and equipment valued at hundreds and even thousands of dollars.

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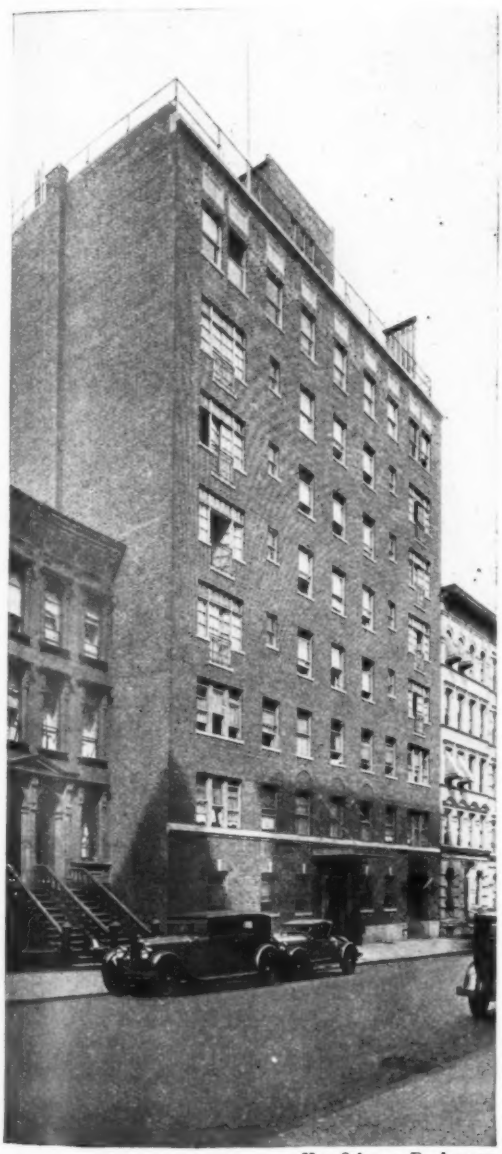

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Dietetics From the Viewpoint of the Physician*

By WALTER C. ALVAREZ, M.D.
Division of Medicine, the Mayo Clinic, Rochester, Minn.

MANY of my thoughts on hospital dietetics can be traced back to an unfortunate experience that I had many years ago. A man came to me with carcinoma of the descending colon and a history of occasional attacks of mild intestinal obstruction, which he could avoid by sticking to a smooth, low residue diet.

As soon as the diagnosis was made the patient was sent to a hospital with orders that no food be given him except a little meat, soup and rice. The next day I found that these orders had somehow miscarried, and the man had been given two large meals with much roughage. The bowel promptly became obstructed, a colostomy had to be made, and the patient finally died. At necropsy a piece of lettuce leaf was found plugging the narrow opening through the carcinoma.

Although I could not be sure of it, I have always felt that this man's life was sacrificed to the present day craze for rough and bulky food. Hospitals are made for the care of the sick and not of the well, and if the basic diet of that hospital had been designed with some regard for the factor of digestibility, the accidental miscarriage of my orders might not have been so disastrous.

To be sure such cases are rare, but so are cases of poisoning from poorly labeled drugs and cases of dispute over poorly labeled infants. Hospital authorities do everything they can to prevent these distressing mishaps so why should they not be concerned about others? But I will not stress the point, and if an occasional serious accident were my only grievance against a rough hospital diet I would not now be taking your time. My main grievance is that in hundreds of cases, particularly those in which operations have recently been performed on the digestive tract of asthenics with weak digestions, much flatulence and distress are produced by the giving of such food as the patient, even at his or her very best, could not digest with comfort. Time and again in years past I have called on a patient just recovering from cholecystectomy or gastro-enterostomy and have found on the luncheon tray salad, raw fruit, bran muffins, and, I need hardly add, spinach. The surgeon had said to the nurse, "The patient may now eat," and a full tray had been brought.

Certain dietitians have tried to meet my objections by saying that in their hospitals the entering patient is kept on "soft diet" until something else is ordered, but that sometimes works poorly. I remember one big fellow with a good appetite who after an operation on a bunion was given nothing but milk toast and gruel. He submitted meekly for ten days, only to discover that his starvation had been due solely to the forgetfulness of his surgeon and the nurses. I shall not attempt here to record his remarks about that hospital and physicians in general.

Some will answer, "But these are faults of the surgeon, he should order the proper diet in each case." Perhaps he should, but unfortunately surgeons are often busy men; their minds are concerned with their own technical problems, and rarely have I met with one skilled in dietetics or willing to bother himself about detail in the matter of food prescription.

Some may ask, "But does a rough diet do harm and if so, why?" From the time of Hippocrates, who fed his sick patients on gruels, until a few years ago it was well known that those who are ill are likely to do better on a smooth diet than on a rough one. The reason for this was probably discovered by Bayliss and Starling when they showed that liquids or semiliquids will flow easily in either direction, up or down the bowel and past narrow places, whereas, solids can be made to go only in the normal direction of peristalsis.

Similarly, if in dogs a section of small intestine is cut out, turned end for end and anastomosed again, the animals can be kept alive for months if the greatest care is taken to keep rough and indigestible foods beyond their reach. Eventually the animals die from intestinal obstruction, and necropsy always shows a mass of straw, bone, and cellulose that has accumulated at the upper suture, the point where the gradient of intestinal activity is reversed. There is no question in my mind but that many patients with indigestion, or with sections of bowel irritated by operative procedures, have a tendency to reverse peristalsis, and that liquids and semiliquids will go through more easily than solids.

*Read before the Minnesota Hospital Association, Minneapolis, May 28, 1928.

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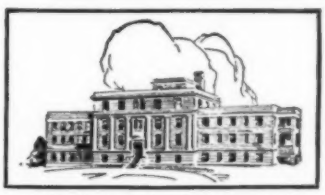

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It has been stated also by physiologists that the hardest work that the stomach and bowel have to do is the reduction of raw, cellulose containing food to a liquid chyme, which can be acted on by the digestive juices. Cellulose is the most difficult substance man has to digest because there is no ferment in the digestive tract to handle it. Why then, when we want to ease the labors of a weakened or handicapped intestine, should we not remove or break up the cellulose and soften the food so that little mechanical work will have to be done on it? The reason we give roughage is because it is absolutely indigestible and will remain in the colon to form a bulkier stool.

Why Force Roughage on Everyone?

A few months ago some Foundation went into a small city to wage one of those campaigns of health education that nowadays are so popular. What interested me was that after it was all over, the most striking result that the workers could point to was a tremendous increase in the demand for spinach in the local markets. This is symbolic of what is happening everywhere. The research on dietetics which in recent years has yielded such interesting discoveries, is still in progress. The results have not yet been mentally digested and their importance in human dietetics cannot yet be fully appraised. Certain features of the subject have struck the popular fancy and have been played up prominently to the exclusion of others equally important. Much confusion has been wrought by the tremendous educative campaign waged in the public press by overenthusiastic but insufficiently educated persons, some honestly trying to help humanity, some trying to sell something, some thrilling over their own verbosity, and others a little "cracked."

The pressure of opinion produced by this campaign for vitamins, roughage, greens, and raw food is so great that it can be withstood only by a determined and thoughtful person well supplied with facts. Unfortunately some of the dietitians I have met were neither thoughtful nor well supplied with facts. They had drifted with the current and had apparently forgotten that in prescribing a diet one should occasionally think of the factor of digestibility. Other dietitians, of course, are sensible, well trained and able women who deplore the present stampede for rabbit food as much as I do. Surely, any criticism which I may offer here is not directed against them.

Possibly some of them will feel that I am tilting at windmills, that the worst is over, and that dietitians worthy of the name no longer wish to stuff every patient with roughage. I hope they are right but I doubt if the millennium has come, because in recent years I have met several young women who so feared disaster from excluding raw foods and roughage from the diet of my patients that in spite of all my protests the objectionable articles kept reappearing on the trays. Finally, in some hospitals, I despaired of ever having my orders carried out for any length of time. This was not due to a refusal of the dietitian to cooperate with me but to the inability to control a group of assistants all imbued with the idea that roughage makes an ideal diet for the sick.

Once or twice, however, when I have remonstrated with the young woman in charge she has but poorly concealed her contempt for my ignorance of "the fact that such articles are absolutely essential to health." "Did I not know of Dr. McCollum and his teachings?" "Did I not know that spinach is full of iron and that leafy vegetables are protective foods?" Unfortunately for her argument I had read a good deal of the work of Dr. McCollum and the other men who have given us our knowledge of vitamins. Some of them are my friends, and I have spent much time talking over the problem with them. They have assured me that my contentions are correct and that most of the enthusiasts would not be so vociferous if they had read original articles.

I wish particularly to call attention to the fact that of the seven vitamins that so far have been identified, five are of value only or mainly in the growing animal. These are "A", a fat soluble substance, one fraction of "B", "D", which prevents the development of rickets, "E", which is essential to the fertility of the white rat, and "F", a new one recently discovered by Evans. There are only two the absence of which from the diet of adult men and women is definitely known to produce disease; one, the fraction of "B" that prevents the development of beriberi, and "C" which prevents scurvy.

It must be noted also that not all animals are subject to disease when deprived of some of the vitamins. Dr. Evans tells me that the rat is immune to scurvy, that man probably does not suffer from lack of the fertility vitamin, and that cattle do not suffer from lack of "B". Some animals can either synthesize vitamins or can absorb them after they are formed in the digestive tract by the action of bacteria. Obviously then, the medical profession must not assume that everything demonstrated in growing rats is immediately and unqualifiedly applicable in the nutrition of adult men and women.

From the way in which dietary faddists (most laymen and laywomen) talk, one would think that their campaign for the use of greens was necessary to save the nation from disaster. But what physician practicing among American adults of any but the poorest and most ignorant class has seen many cases of xerophthalmia, beriberi, or scurvy? In fifteen years I have never seen a patient in whom I could be sure of disease due to avitaminosis, and yet I have seen scores of cranks and dyspeptics who for months or years had lived on markedly restricted diets. Dr. McCollum writes me that at Johns Hopkins Medical School, in ten years, Dr. Howland saw four cases of ophthalmia which was thought to be due to lack of vitamin "A". From the fact that these patients were seen by Dr. Howland I assume that they were children.

Dr. McCollum believes that those persons who live largely on white bread, meat, sugar, and potatoes are probably running dangerously close to the minimum physiologic requirements of vitamins, especially "B". It is possible that some forms of nervous and gastro-intestinal disease are due to such privation, but as yet the medical profession is not sure of this. If such diseases exist it seems to me that they should be found most easily, not in prosperous countries like the United States, but in the Orient, where millions live close to starvation; and the fact that so few avitaminoses have been identified in China, Japan, and India makes me doubt if many will be found in this country where food is so abundant and varied.

When Vitamins Are Most Important

The new knowledge of vitamins is of tremendous importance to the grower of live stock, to pediatricians, to health authorities in overpopulated countries, in countries devastated by war and famine and in countries where food must be stored for use during long hard winters. It is of importance to sailors and explorers, but it is not so important to men and women living in a temperate climate on a varied and fairly rich diet. One has only to read the original papers of those who have given us our newer knowledge of dietetics to see how much care they had to take to purify the various foods so as to exclude all traces of vitamins, and how many mistakes they made because small quantities were unwittingly left clinging to other

substances. Any adult who eats butter and cream and enough of a number of foods, some fresh, is getting vitamins "A", "B" and "C" and, as had been shown, he probably does not need "D", "E" and "F".

But the enthusiast says: "Even when a man is getting enough, more would make him feel better." Possibly he is right but I doubt it. Authorities tell me that so far as they know there is no evidence in favor of that view, and that with vitamins as with other foods, enough is probably as good as a feast.

Vitamins Can Be Given Without Roughage

But even if one is willing to grant that many persons may be a bit the worse for lack of vitamins, or that, having enough, they would be stimulated and invigorated by more, one can still ask embarrassing questions of the spinach-centered type of dietitian. First: Would it be possible to supply vitamins without roughage, and second, would it be possible for an adult to live safely for a fortnight or two without any vitamins at all? The answer to both queries must be, "Yes."

Dr. McCollum, under date of August 20, 1927, writes me: "I am entirely in sympathy with your view of the undesirability of stuffing persons with roughage. Of course there is no necessary connection between stuffing with vitamins and with roughage." We do not have to eat leaves in order to get vitamin "A", the cow will do it for us and will concentrate it in cream and butter. The yeast plant will concentrate "B", and a little orange juice will give us all the "C" we need.

Furthermore, as I have already pointed out, it is difficult or impossible to show certain vitamin deficiencies by depriving adult animals of proper food. They have enough stored away in the body, sometimes for the full course of their lives and for part of the lives of their offspring. It would seem, then, that a hospital dietitian might well disregard the vitamin content of the diets of her transient guests, and might with greater advantage pay attention to the factor of digestibility.

All this does not mean that I am against the use of roughage for everyone. If I were I should be just as thoughtless and wrong as are those who would force it on everyone. There is no question that many persons today would be better off if they ate more bulky foods or foods that have to be chewed; their teeth and jaws would probably develop more normally and they would have less tendency to constipation. I have no objection to roughage as such; I prescribe it whenever I think it is needed, but I do not keep on ordering it when it disagrees with my patients, when they are ill, or when they have just been operated on.

I have tried to bring out the points that the routine prescription of a rough, vitamin-rich diet can occasionally cause serious mischief, that commonly it can bring discomfort to asthenic and dyspeptic patients and that never is it necessary. Next I would like to point out to hospital superintendents that it is an economic waste to put before patients expensive food that they not only do not need and that may do harm.

This point was brought to my attention several times when in a university hospital I tried to get more cream and butter for thin patients whom I was trying to fatten. During the course of some grumbling about my request, the superintendent explained that some of the difficulty he was experiencing in making both ends meet was due to the expense incurred in supplying just the fancy salads and fruits that I was trying so hard to keep off the trays of my really sick patients. For a moment he jumped at the idea of giving such persons only those simple digestible foods that they need or are likely to eat, but soon he began to conjure up in his mind possible objections to the plan, and before long he wound up in that refuge for most perplexed minds, the belief that what is customary is doubtless right, even if no one can give a logical reason for it.

My suggestion was to have in the basic diet of the hospital cellulose-poor, fairly digestible foods such as I have described elsewhere[1]. A wide variety could be included so that no hardship need be worked on anyone, and even some salads, such as tomato jelly, pear, peach, chopped apple, fruit-gelatin, and fruits could be allowed. If the patient were very ill a still softer and more restricted diet could be prescribed. If there were no need for any restriction a full tray could be ordered, or if overfeeding were desired more cream and butter could be added to the smooth diet.

Still another and perhaps the most convincing argument in favor of using a basic smooth diet is that it might well take the place of many special diets asked for by members of the staff. Specialism costs money because if every tray is different one dietitian can take care of but few patients. The main reason that in several hospitals I came to despair of getting my dietetic prescriptions carried out was that in those institutions the dietitian had too much to do. She would willingly start a patient on a diet but she could not stand over pantrywomen and nurses to see that the orders were carried out.

If the physicians working in a hospital could be shown the value of a few standard diets matters would be greatly simplified, fewer dietitians would be needed and mistakes would less frequently be made because the pantrywomen and nurses would soon become trained. Actually, in one hospital where the smooth diet was widely adopted by the staff everyone was satisfied and everyone who wanted his patients to have a digestible diet could be sure they would get it.

In view of the fact that hospitals are designed for the care of sick persons, it is suggested that the basic diet be a smooth digestible one with little roughage but enough variety and enough fuel value, so that no one need feel privation. Variations from this diet could be made on orders from the attending physicians.

An attempt has been made to show that roughage is not essential in all diets and that vitamins can be given in concentrated and digestible forms. Vitamins can even be disregarded in prescribing diets that are to be used during the average period of a patient's stay in a hospital. Money can be saved by not buying salads and fruits for those who cannot or should not be eating them. It can be saved also because under the proposed plan fewer special diets need be prescribed and one dietitian can take care of many more patients than she otherwise could.

[1] Alvarez, W. C. Oxford Medicine, Vol. III, p. 44; The Mechanics of the Digestive Tract, Hoeber, New York, Second Edition, 1928, p. 327; Jour. A. M. A., 1927, 89: 440-445.

State Registration for Dietitians Urged

The California State Dietetic Association is sponsoring a movement for the state registration of dietitians, in the belief that such registration will standardize the educational qualifications and protect the rights of dietitians as a professional group. The assistance and cooperation of all dietitians in the state is being asked in helping to forward this movement.

For complete index of advertisements refer to the Classified Directory

Suggestions for a Basic Hospital Diet*

By FLORENCE H. SMITH, B.S.
Department of Nutrition, St. Mary's Hospital, Rochester, Minn.

DR. ALVAREZ has based his suggestions for a basic hospital diet upon personal experience which has covered a number of years. It is my purpose to consider Dr. Alvarez's suggestions, and to profit by them. The conditions that he has met and described are not unknown to any of us.

Let us not misunderstand Dr. Alvarez's plea for more thoughtful management of hospital dietaries. Dr. Alvarez is not arguing for the neglect of all that we have learned recently, and he fully recognizes the usefulness of roughage and vitamins in certain cases, but he is asking us to remember that such foods should not and need not be used at all times for all patients. As an addition to Dr. Alvarez's remarks I would emphasize the importance of developing an organization whereby the individual patient may be treated. When a patient suffers through mistaken or miscarried orders it is deplorable, whether the mistake be in the field of surgery, medicine, nursing care or dietetics.

It has long been the practice in hospitals to cover the needs of surgical patients by adopting a standard liquid, soft, light and full house diet. These diet lists are posted where doctors writing orders and nurses serving food may all have access to them. This method is more or less satisfactory depending largely upon the personal interest and training of the medical and nursing staff.

Universities Offer Nutrition Courses

Knowledge of the chemistry of food and nutrition has accumulated rapidly in the past twenty years, and diet therapy is now recognized as a part of medicine. Reorganization of the hospital dietary department to meet the demands for therapeutic diets has almost always been necessary. Hospital superintendents have been concerned with building and equipping to accommodate the new demands. In their efforts to meet the needs of the medical staff for special service in diet therapy the hospital superintendent has at times suffered financial loss. It indicates a real pioneer spirit on the part of any hospital administrator who turns one third of his hospital budget into a commissary department, where a generous portion of this allowance is often used for diet therapy and education, as well as for research work. This new therapy requires workers especially trained in the knowledge of foods and nutrition, and hospital administrators sometimes look in vain for a person of sufficient training and experience to direct this new department. Universities and colleges of home economics are now offering courses calculated to prepare workers for the field of nutrition.

There is danger of the workers in this field being carried away by their enthusiasm for this the chemistry of life, and of overemphasizing its importance. I am glad that Dr. Alvarez has sounded a note of warning for us. On the other hand, we must not permit food fads and nutrition nonsense, accounts of which are filling the press today, so to disgust us with dietetics that we view with indifference the teachings of science regarding our food supply.

Dr. J. S. Hughes, dean of the division of chemistry, Kansas State Agricultural College, in speaking to the staff of the Mayo Clinic, Rochester, Minn., emphasized the following: It is no longer necessary for one to be in doubt as to whether or not he is receiving an adequate diet. The science of nutrition has made such rapid progress during the last few years that we now know with a fair degree of certainty just what substances are required in an adequate diet and what foods contain these essential substances.

It is important that the individual have all of the essential substances in his diet, rather than any particular food or all kinds of food. No particular food substance, such as milk or spinach, is necessary for an adequate diet. Such a food may contain many of the essential substances, but a wide variety of food combinations may be selected to include all substances necessary in an adequate diet, without using the foods that are often stressed as important.

Dr. Hughes has for many years been engaged in teaching the chemistry of food and nutrition to dietitians so it would seem safe to assume that this teaching is bearing fruit in hospitals where well trained dietitians are employed. The dietitian is the youngest member of the professions in the hospital group, and unlike the physician and the nurse she is not at present protected by state laws regarding education and registration. At best the dietitian's education today consists of four to five years of academic training with perhaps six months of hospital training where her position is too often that of a cheap kitchen helper rather than that of a student of nutrition.

For these reasons it seems unwise to thrust upon her the responsibility for the patient's diet which the thoughtful well trained clinician finds too serious to intrust to the young physician with his seven or more years of training. For these reasons I would ask Dr. Alvarez to bear with her, and to teach her until she has had an opportunity to become what he so generously wishes her to be.

I would place the responsibilities for errors in diet prescriptions upon the senior medical officer in charge of the service, and the responsibilities for errors in service upon his consulting dietitian, the director of the department of nutrition.

Standardization of Diets Not Practicable

I agree with Dr. Reginald Fitz, dean of medicine, Harvard University, when he says: "Since each hospital must face individual problems of organization it is unlikely that any general standardization of diets is practicable. On the other hand, in constructing normal diets, hospital dietitians must recognize the common, present day dietetic errors and habits, and must remember that hospitals are becoming more and more centers of public health instruction for well and for sick people in all parts of the country.

"The most universal dietetic errors consist in the abuse of rich and concentrated foods eaten in large quantities and irregularly. Such dietetic errors may result in obesity and chronic constipation. The public must be made to realize the possible dangers of obesity. Hospitals must

*Discussion of Dr. Alvarez's Paper which appears on page 128.

set an example to their patients and personnel by serving model, normal diets that are inexpensive, easily prepared, palatable and well cooked, that contain sufficient bulk, calories and protein to cover the ordinary metabolic and digestive needs and that are so balanced in their food components as to be sound in theory and of practical usefulness."

I am much in sympathy with the efforts that are being made to establish a more or less standard base ration or foundation diet for the average American diet.

Flora Rose, director, College of Home Economics, Cornell University, Ithaca, N. Y., and Mary Henry, professor of nutrition of the same college, have outlined and recently published a foundation diet, which they consider will ensure desirable amounts of "building materials" and "regulators" to adults.

The following foods are recommended:

One and one-half to two cups of milk a day, but not more than one quart. Potatoes once a day.

Two generous servings of succulent vegetables a day, one of them to be a leafy vegetable. Raw vegetables several times a week. More vegetables may be eaten if desired and if well tolerated.

Two servings of fruit a day, one of them to be a citrous fruit—oranges or grapefruit. Tomatoes may be substituted for these fruits. More fruit may be eaten if desired and if well tolerated.

One serving of meat a day.

One egg a day when possible. Whole grain breakfast foods and breads should be given preference.

One or two teaspoons of cod-liver oil a day during the winter months, or when animal fats and particularly butter fats are reduced in the diet.

Six to eight glasses of water a day.

In the goiter belt special attention should be given to iodin-containing foods.

The authors' cautions regarding an overdose of the foods recommended seems to indicate that they, too, recognize the suffering that may be caused by the combination of a dangerous enthusiasm and a little knowledge. The authors recommend this foundation diet as meeting the average requirements for normal nutrition, rather than the optimal.

In the public health teaching of the American Red Cross a textbook on "Food and Nutrition," by Dr. Ruth Wheeler, Vassar College, Poughkeepsie, N. Y., is used as a basis of food selection. In the last edition of this book you will find under the discussion of choice of food for grown people a foundation diet that the author recommends "for use as a dietary nucleus of foods that can be eaten regularly, as a foundation on which the day's meals can be built cheaply or expensively, monotonously or diversely, carelessly or well as may be suggested by time, money and interest. Such a nucleus will not only save trouble and thought but will also act as a sort of "nutritive insurance." This foundation is similar to the one arranged by Miss Rose and Miss Henry.

A Foundation Diet

In 1924 the department of nutrition at St. Mary's Hospital, Rochester, Minn., formulated a foundation diet which we have found extremely helpful, not to use as a blanket order for every patient in the department but to use as a guide in writing diets that fill individual prescriptions. There are approximately 100 modifications of this diet now on file, in the nutrition office. These standard diets serve as patterns for the calculation of diets that are fitted to the patients. The dietitian must be as skillful as the tailor in planning and fitting the diet, for perfection in food grows tiresome if it is impersonal. A hasty analysis of the diets served last year by the department of nutrition at St. Mary's Hospital may be of interest.

In all, approximately 163,310 diet prescriptions were filled. Of this number over 96 per cent were diets that included the foods listed on our foundation diet. No orders for rough diets were received and less than 4 per cent of all diets ordered were of a low residue or smooth type. These diets were not ordered by the dietitian but by the physicians in charge of the medical services of the hospital.

An analysis of last year's food costs shows:

Head lettuce cost on an average one-half cent per serving, which equals the cost of a pot of tea and is only one-half the cost of a pot of good coffee, cream and sugar not included. Oranges (size 200) cost the institution three cents each, while eggs averaged five cents each. Canned fruits, of the best brands cost two cents for a three and one-third ounce portion, and puddings average a cost of two and one-half cents each, the cost of labor not included. Canned vegetables, of the best brands cost two cents for a three and one-third ounce portion, and the average cost of a two ounce portion of meat is two and one-half cents, the cost of labor not included.

Unfortunately I cannot give you the cost of serving of spinach for its importance in our dietary did not warrant separate cost calculation.

With data of this kind before her the dietitian is able to estimate the cost of the individual diet, and suitable changes may be made. In view of the fact that hospitals are designed for the care of the sick, I would emphasize that we must treat the individual, and fill diet orders as prescribed by the physician in consultation with the dietitian.

Dr. Alvarez's suggestions based on experience should be carefully considered, and the dietitian working with the physician should always bear in mind that the food selected to fill the diet prescription must be digestible, palatable and suitable to the dietary habits of the patient. The successful dietitian of the future will not overlook the satiety value of the diet.

Institutional Upkeep Demands Continual Attention

That a daily repair service and the painting of worn surfaces are essential details that must be attended to in keeping a building in first-class condition, is the opinion of Carolyn E. Davis, superintendent, Minor Hospital, Seattle, Wash.

Continual cleaning and repairing have become routine jobs in nearly all hospitals today, so that there is no greater amount of work being done at one time than another.

It is desirable at all times to have a building reflect care and good upkeep, and one way this can be accomplished, is by the regular employment of as many people as are necessary, so that the painted surfaces are never allowed to run down. A good oil paint should be used, and enough coats applied to make a finished job. Before the room is restored to use, allow enough time so that the paint will be thoroughly dried. The same principle applies to varnishes.

In repairs on electrical and plumbing equipment, outside help should be enlisted, for inexperienced workmen can often do a great deal of damage and cause a heavy financial outlay.

For complete index of advertisements refer to the Classified Directory

OUT-PATIENT SERVICE

Conducted by MICHAEL M. DAVIS, Ph.D., Executive Secretary, Committee on Dispensary Development, United Hospital Fund of New York, 151 Fifth Avenue; New York
A. K HAYWOOD M.D., Superintendent, Montreal General Hospital, Montreal, Que

Coordinating Medical Service in Clinics*

By PHILIP S. PLATT, Ph.D.
Secretary, Associated Out-Patient Clinics Committee, New York Tuberculosis and Health Association

WITH the growth of out-patient departments and the increase of specialization, it becomes more and more important that close working relationships be established between general medicine and the different specialties as well as between the specialties themselves. Otherwise, the patient is likely to have numerous examinations and many diagnoses, but to fail to secure a unified interpretation of his case and systematically coordinated treatment of the various conditions from which he may suffer. As specialization in medicine increases in private practice and in clinics the need for coordination advances likewise.

With this in mind, the Associated Out-Patient Clinics Committee, New York, has undertaken to formulate the policies that should govern the relations between different services or specialties within the out-patient department. The method has been to appoint subcommittees of physicians representing the two specialties to be considered. The two subcommittees then confer and discuss their interrelations in referring or consulting on cases. A tentative statement is prepared as a result of the discussion, and is submitted separately to both groups. Following this a revision is made and one or more joint conferences are held in order to harmonize differences and reach a final agreement.

In the belief that physicians and administrators of many out-patient departments are interested in better coordination of medical service, the policies as thus far worked out between certain services are printed herewith. The work is continuing and it is intended to take up other relations, such as those of the department treating syphilis with general medicine; of neurology or psychiatry with general medicine; and of ophthalmology with the department treating syphilis.

Relation Between Pediatric and T. B. Clinics

Is the child in attendance at a specialized clinic being given the consideration as to general health supervision and care which the pediatrist considers so essential for normal growth and development?

This question was considered of sufficient importance to warrant discussion by a subcommittee of the pediatric and tuberculosis sections of the Associated Out-Patient Clinics Committee. The discussion was confined to the child in attendance at these two types of clinics. Ideally, a pediatrist should be on service in all children's tuberculosis clinics, but this is not always feasible. The tuberculosis expert admits the importance of the general health examination and service given by the pediatrist, but the interest of the tuberculosis expert in chest examinations, x-ray findings and Von Pirquet reactions is so great that he frequently overlooks this phase of the child's general health needs. Futhermore, time does not permit the handling of the many problems of feeding and special care involved in the growth and the development of the infant and the young child.

When the Child Is Tuberculous

On the other hand, although the pediatrist feels qualified to detect tuberculosis, the assistance of the tuberculosis specialist skilled in this work is needed in many cases. If the child is diagnosed tuberculous, the pediatric clinic is not equipped, as a rule, to continue with specific treatment and assume the responsibility of caring for tuberculosis as a family health problem.

Some institutions have already realized that the situation, as it exists, does not adequately provide for the child and have formulated policies of relationship between these two clinics within their own institutions.

These policies are submitted, not with the desire to change any such policies as are already working smoothly, but as suggestions to institutions that have not yet put into operation a working arrangement whereby the two clinics jointly may provide a well rounded service.

A. For Infants and Children Registered at Tuberculosis Clinics:

1. All infants and children registered at tuberculosis clinics should be referred routinely after initial examination in the tuberculosis clinic to the pediatric clinic for general health examinations. These children should then be referred back to the tuberculosis clinic with necessary recommendations from the pediatrist, who will also indicate the date of the next visit to the pediatric clinic.

2. The responsibility for family supervision and home

*Tentative standards of relationship between certain specialties as formulated by the Associated Out-Patient Clinics Committee, New York Tuberculosis and Health Association.

visiting and for carrying out the general recommendations made by the pediatrist should be retained by the tuberculosis clinic. Thus the main responsibility of the child's care and supervision will rest with the tuberculosis clinic. The social worker or nurse in the tuberculosis clinic who is assigned to the family will report to the tuberculosis clinic as usual and to the pediatrist if required. (Should there arise at any time acute conditions other than tuberculosis, it might be advisable to have the pediatric worker carry on temporarily, at least, the home visiting; family supervision remaining the responsibility of the tuberculosis clinic).

B. For Infants and Children Registered at Pediatric Clinics:

1. Infants and children in attendance at pediatric clinics, if suspected of having tuberculosis, should be referred to the tuberculosis clinic for examination and diagnosis.

2. If a diagnosis of tuberculosis is made, the child should be automatically transferred to the tuberculosis clinic with the recommendations of the pediatrist as to his general health supervision and date for the revisit to the pediatric clinic.

3. In all cases where a diagnosis of tuberculosis is made or when active tuberculosis is found in the child's family, the case thereafter will fall under paragraph 2, Section A, and hence the tuberculosis clinic will make the home visits and assume the responsibility for family examination and supervision.

4. In cases where tuberculosis is not diagnosed but is suspected, the child should remain under the general health supervision of the pediatric clinic, and continue under observation of the tuberculosis specialist. The responsibility for carrying out all recommendations until the case is diagnosed should be assumed by the pediatric clinic.

5. Infants and young children showing a positive tuberculin skin test, but no clinical signs of tuberculosis should be reported by the pediatrist to the tuberculosis clinic, so that follow-up visits and family investigation may be made for the purpose of discovering, if possible, the source of infection.

As the policies agreed upon would be carried out differently in the detached clinics and in those attached to a hospital in which both pediatric and tuberculosis clinics are under the same roof, methods of procedure in applying these policies will differ in the detached clinics and in those attached to hospitals in which there are pediatric clinics. The administrative details involved in these relationships will require careful consideration.

Relation Between Medical and T. B. Clinics[1]

Since tuberculosis clinics are frequently conducted as unattached clinics under the supervision of a department of health or other agency, and not in conjunction with a hospital out-patient department, there is sometimes a lack of coordination between the two, which prevents the patient from receiving adequate care. Where the medical clinic and the tuberculosis clinic are both held in an out-patient department the relationship is closer, making possible the treatment of the patient as an entirety, provided the services of the two clinics are correlated.

Believing that a statement of policies governing the interrelationship between the medical clinic and the tuberculosis clinic will facilitate the treatment of tuberculous patients, suspects and contacts, the following policies have been formulated by a joint committee representing physicians in charge of both clinics.

1. A patient in the medical clinic with a definite diagnosis of tuberculosis should be transferred at once to the nearest tuberculosis clinic. In at least one city this is made compulsory by a regulation of the sanitary code[2] to the effect that "examinations and treatment of persons affected with pulmonary tuberculosis shall be conducted in a special clinic or department maintained solely for such purposes." Some medical clinics, it appears, continue to treat patients who have been diagnosed as tuberculous. Whenever special tuberculosis clinics are available this practice should be discouraged.

2. A patient in the medical clinic who presents symptoms suggestive of tuberculosis and whose diagnosis is doubtful should be referred immediately to the tuberculosis clinic for consultation. If a diagnosis of tuberculosis is made, he should be retained as a patient in the tuberculosis clinic and a report of the findings transmitted to the medical clinic. If the patient is found to be nontuberculous, he should be returned to the medical clinic with a report of the findings.

Physicians in a tuberculosis clinic have more time and are better able to make an examination and diagnosis of tuberculosis than physicians in a medical clinic. Responsibility for the patient, however, remains with the medical clinic until the reference from the medical clinic to the tuberculosis clinic becomes a transfer.

Nontuberculous Patients Sent to Medical Clinic

3. A patient in the tuberculosis clinic, diagnosed, after due examination and consideration, as nontuberculous, should be transferred to the medical clinic if he presents symptoms requiring attention from that clinic.

Transferring these patients prevents an accumulation of nontuberculous patients in the tuberculosis clinic, and places the responsibility for further treatment on the medical clinic where it belongs.

4. Contact cases should be examined in the tuberculosis clinic. If suspected of having a condition requiring attention from the medical clinic, the patient should be referred to that clinic for consultation. As a member of a family in which there is tuberculosis, the contact case will come under the supervision of the tuberculosis clinic.

This does not preclude the necessity for treatment in other clinics that this patient may need. The responsibility for seeing that the patient obtains services from whatever clinics his condition indicates rests with the tuberculosis clinic.

It is felt that these policies can be most effectively carried out under the following conditions:

A. When both clinics are integral parts of a hospital out-patient department, which provides facilities for diagnosis, treatment, supervision and consultation not available in an unattached clinic.

B. When a unit record system is in operation, making available as a unit all the medical, social and administrative data pertaining to the patient from each service with which he comes in contact.

These conditions are included in the accepted standards for out-patient service. The advantages of having both clinics functioning as parts of an out-patient department are obvious from the point of view of medical organization and out-patient administration. Not all institutions are equipped with a unit record system. However, when

[1] The following sections constitute a part of a report on "The Place of the Medical Clinic in the Out-Patient Department" now being prepared by the Medical Committee of the Associated Out-Patient Clinics Committee, of the New York Tuberculosis and Health Association, 244 Madison Avenue, New York.

[2] Section 223 Sanitary Code, New York City.

it is not possible to file the tuberculosis records centrally, there should appear in the central file at least a notation to the effect that the patient has been diagnosed as tuberculous.

The importance of providing special clinic care for cardiac cases is quite generally recognized. The number of clinics organized to treat cardiac conditions is increasing, since these clinics are better able to provide adequate service than the general medical clinics.

Strengthening the ties between the medical clinic and the cardiac clinic will aid in the study of heart disease, facilitate treatment, and insure the adoption of preventive measures as early as possible.

Cardiac Clinic Should Cooperate With Medical Clinic

The relationship of the cardiac clinic to the medical clinic has been expressed in the "Standards for Cardiac Clinics" issued by the heart committee of the New York Tuberculosis and Health Association, to the effect that "the cardiac clinic should be operated as a special section of the medical clinic, to which it should offer aid in diagnosis and treatment." The joint committee of cardiologists and physicians in medical clinics indorsed this statement and further agreed that:

1. The cardiac clinic should be established as a part of a hospital out-patient department containing a general medical clinic, not as an unattached clinic without hospital affiliations. This provides opportunity for the necessary reference between clinics, as well as making available hospital resources, such as x-ray and laboratory facilities, and electrocardiograph, not likely to be found in the detached day clinic.

2. In order to promote the study of cardiac diseases and to provide adequate care for cardiac patients, every out-patient department containing a general medical clinic should have an organized cardiac clinic whenever this is practicable. In an institution where it is not practicable to have an organized cardiac clinic, the medical clinic should provide the services of a social worker to assist cardiac patients in carrying out treatment. There are institutions in which the organization of a cardiac clinic obviously would not be practical; for instance, where the small number of patients treated does not warrant the introduction of a clinic for this particular specialty. However, if cardiac cases are to be treated in the medical clinic, this clinic will require the services of a medical social worker, who plays an important part in the treatment of cardiacs.

3. Patients with cardiac symptoms applying on their own initiative for treatment should be admitted first to the general medical clinic, on the principle that the medical clinic is the clinic of first examination and diagnosis from which cases should be distributed to clinics organized for the treatment of special medical conditions. However, when patients are referred by neighborhood physicians to the cardiac clinic for consultation, they should be admitted directly to the cardiac clinic.

There is a tendency in some institutions to hold cardiac patients in the medical clinic, although an organized cardiac clinic is functioning in the out-patient department. This practice defeats, to a certain extent, the purpose for which the cardiac clinic was organized, and is considered an objectionable practice.

4. If a patient in the medical clinic is found, upon examination, to have an organic cardiac condition, he should be transferred at once to the cardiac clinic. Patients with abnormal signs and symptoms referable to the heart but in whom the diagnosis of heart disease is uncertain, should be referred to the cardiac clinic for consultation. Such procedures provide not only for those definitely diagnosed as cardiac, but for those in whom there is a possibility that cardiac conditions may develop.

5. Patients discharged from the ward following rheumatic infection should be considered potential cardiac cases and therefore kept under observation. Those having a private physician should be referred to their own physician with a statement from the institution relative to their condition. Those who have no private physician should be referred systematically to the cardiac clinic, or, where there is no cardiac clinic, to the medical clinic. Patients admitted to the general medical clinic who have recently had a rheumatic infection should be considered potential cardiac cases and, as such, should be transferred to the cardiac clinic. A systematic effort to follow-up these patients should be made in order to get them under observation and prevent the development of cardiac conditions.

6. The use of a unit record system, whereby information relative to a patient from both the in- and out-patient departments is filed as a unit, is an effective means of coordinating the work of the medical and cardiac clinics.

In working out the interrelationship between the medical clinic and the cardiac clinic, and in fact between the medical clinic and all medical specialties, the desirability of a scheme of staff rotation, whereby the clinic assistants in the medical clinic may gain experience in the special clinics, is strongly urged. One of the chief incentives to clinic service—the opportunity to obtain training and experience in the specialties—is provided for the younger staff physicians when staff rotation is practiced.

A Solution to the Problem of Adequate Laboratory Service

"Due to what they deem exorbitant fees for laboratory work in private and hospital laboratories, many physicians are sending their work to free state laboratories." This, according to the opinion expressed by Dr. B. W. Rhamy, Fort Wayne, Ind., in an article in the *Journal of the Indiana State Medical Association*, makes work in the pathological field difficult and unprofitable and presents a discouraging outlook for medical students who had contemplated specializing in pathology.

Adequate laboratory service is essential in every hospital if the patients are to receive the best care, and yet, if the members of the staff and visiting physicians won't send their work to the hospital laboratory it would be a financial loss for the hospital to maintain a laboratory staff. In order to gain the recognition and approval of the Council on Medical Education and Hospitals of American Medical Association, a laboratory must be under the supervision of a clinical pathologist.

As a solution to the problem, and a possible means of lowering laboratory fees, Dr. Rhamy has suggested the following: "Any county hospital can find within easy working distance a competent clinical pathologist with whom arrangements can be made to supervise the small hospital laboratory by mail or by occasional visits. In this way the clinical pathologist may supervise a number of hospitals, giving each a share of his service and advice, the routine work to be done by technicians. The less frequently requested tests, such as serology, blood chemistry, animal inoculations, tissues and other complicated tests, which require more elaborate and technical apparatus, may be sent to his laboratory by mail or by messenger for quick and accurate performance."

HOSPITAL EQUIPMENT AND OPERATION

With Special Reference to Laundry, Kitchen and Housekeeping Problems

Conducted by C. W. MUNGER, M.D., Director, GrasslandsH ospital, Valhalla, N. Y.

Depreciation Tests on Ultraviolet Ray Transmitting Glass

By D. C. STOCKBARGER, A. L. M. DINGEE and L. BURNS

Rogers Laboratory of Physics, Massachusetts Institute of Technology, Cambridge, Mass.

IT HAS been known for years that the spectral transmission characteristics of glass may change if exposed to sunlight. Many old windows, originally nearly devoid of absorption in the visible region, have become noticeably purple. The change in transmission is not limited to the visible region, however, as has been shown by investigations at the U. S. Bureau of Standards* and elsewhere.

Some glasses designed to transmit radiation between 290 mu and 310 mu, such as are now offered as substitutes for quartz, decrease in transmission in this range to a considerable extent. Complete data on the subject are difficult to obtain because of the slowness of the photochemical reaction when solar radiation is employed. Manufacturers and users of the glasses demand accelerated depreciation tests, which will permit quick sales and installations, and it has therefore become common practice to expose the materials to arc lamps under whose radiations the glasses reach equilibrium within a comparatively few hours.

It was one purpose of the investigation, a part of which is reported herein, to determine whether or not the extent and character of the depreciation were influenced by the energy distribution of the radiation employed. It is well known that some photochemical reactions proceed differently under different kinds of sources, and it appeared likely that the reaction in the glasses would behave similarly.

A semiquantitative answer being all that was desired, it was deemed unnecessary to attempt to produce radiation having the same lower wave length limit as solar radiation. Even though this were done, the spectral distribution of energy would not be identical with that

*B. S. Letter Circular No. 235.

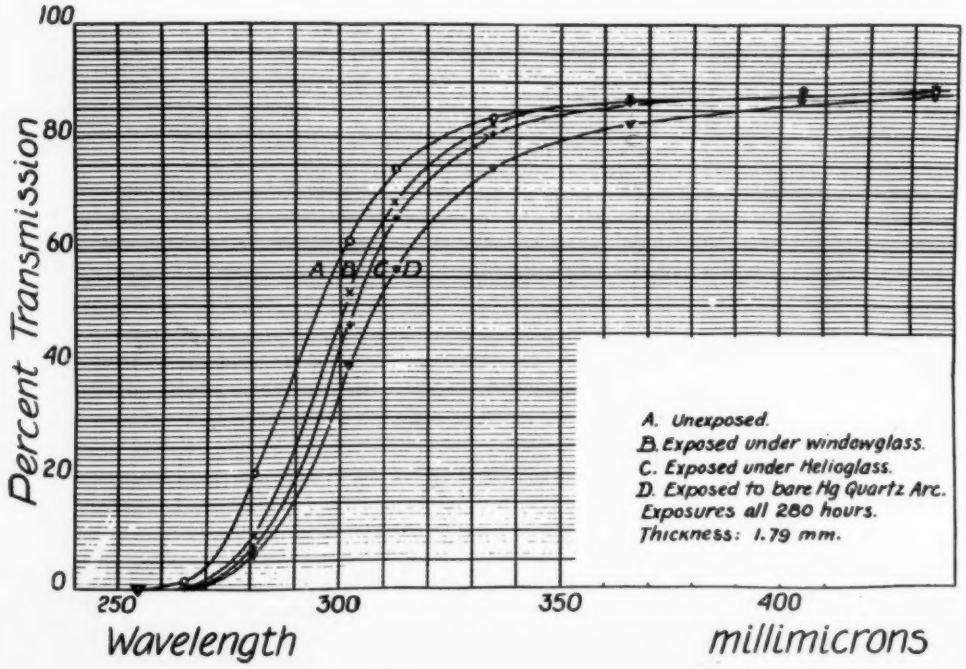
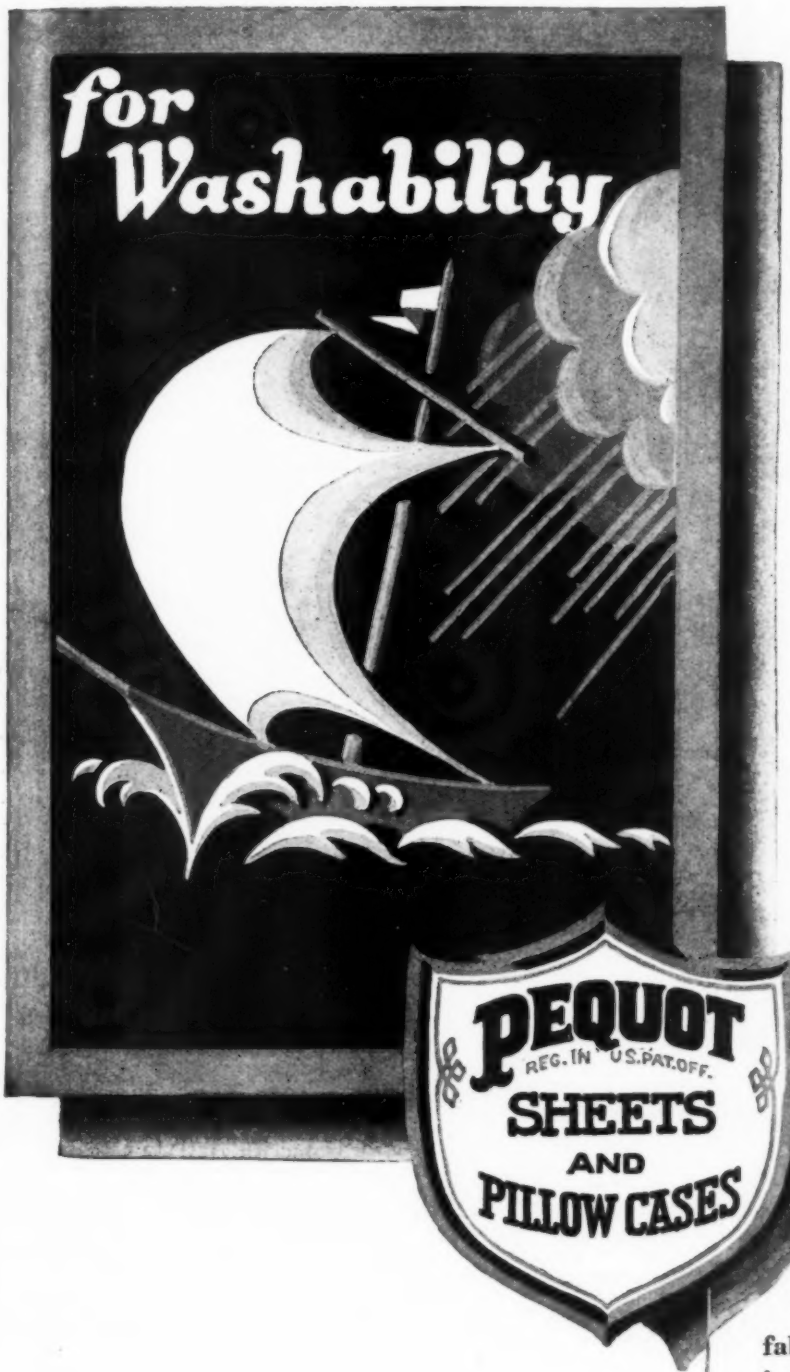


Fig. 1. Glass No. 2 transmission curves. A, unexposed. B, exposed under common glass. C, exposed under Glass No. 2. D, exposed to bare arc. Thickness, 1.79 mm. Time, 280 hours.



Back from the laundry they come — time after time! Clean! White! The fabric firm and intact! That is Pequot washability!

In weaving Pequot sheets, the threads are spaced so that water can swish right through without straining the firm fabric. Easily, quickly, every thread is washed *clean!*

Naumkeag Steam Cotton Co., Salem, Mass. . . . Selling Agents: Parker, Wilder & Co., New York, Chicago, San Francisco, Boston.

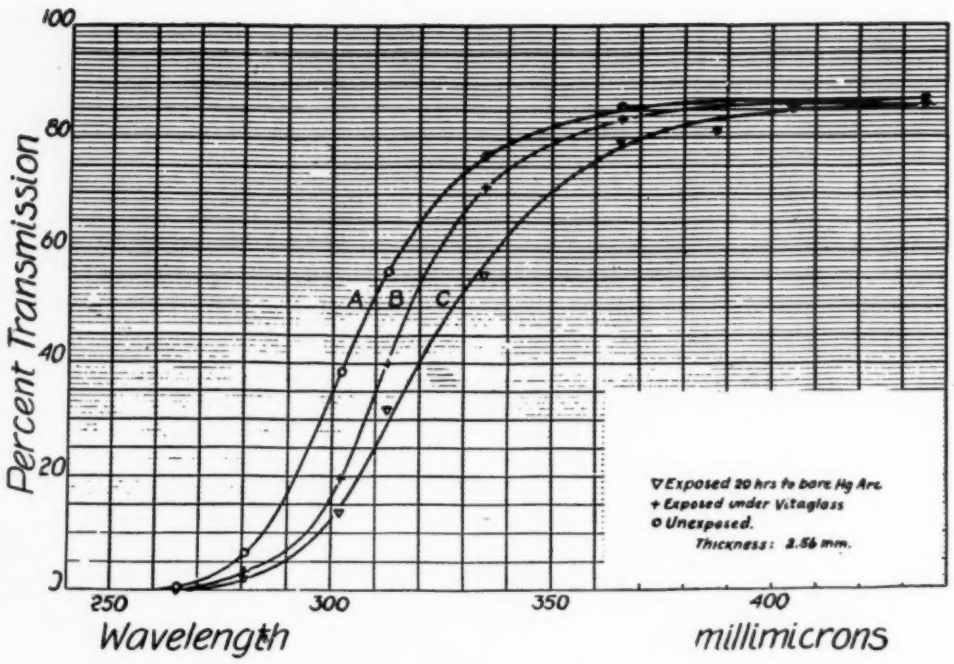


Fig. 2. Glass No. 1, transmission curves. A, unexposed. B, exposed under Glass No. 1. C, exposed to bare arc. Thickness, 2.56 mm. Time 20 hours.

of sunlight. Specimens of common glass and of two types of ultraviolet ray transmitting glass, which we shall refer to as Glass No. 1 and Glass No. 2, were irradiated with bare and filtered quartz mercury arc radiation, a six-inch Uviarc being used at a distance of a little over one foot. The arc was operated under electrical conditions that were close to normal. For filters, Glass No. 1, Glass No. 2 and common glass were employed. As an example, three small squares of Glass No. 2 were cut from one specimen and irradiated directly, under Glass No. 2 and under common glass, respectively. They therefore received radiation of wave lengths longer than the lower transmission limit of the arc tube 270 mu and 310 mu, respectively.

Spectroradiometric tests showed that both Glass No. 1 and Glass No. 2 depreciated in ultraviolet transmission quite rapidly in the first twenty hours of exposure to the bare arc or exposure under similar glass, and that comparatively little change took place during the next twenty hours under either condition of exposure. At the end of a 280 hour exposure, two other sets of Glass No. 2 specimens showed very little more depreciation than the first set, and during the next 205 hours there was no detectable change. These and similar tests definitely prove that these glasses do not continue to depreciate until they are no better than common glass.

Further experiments showed that the action of the radiation was not limited to the exposed surfaces of the glasses. A set of Glass No. 2 specimens, which had been exposed for more than 200 hours and therefore had practically reached equilibrium, was turned upside down and exposed for another 200 hours. Neither of the specimens suffered additional depreciation as would have been the case had the photochemical reaction taken place on

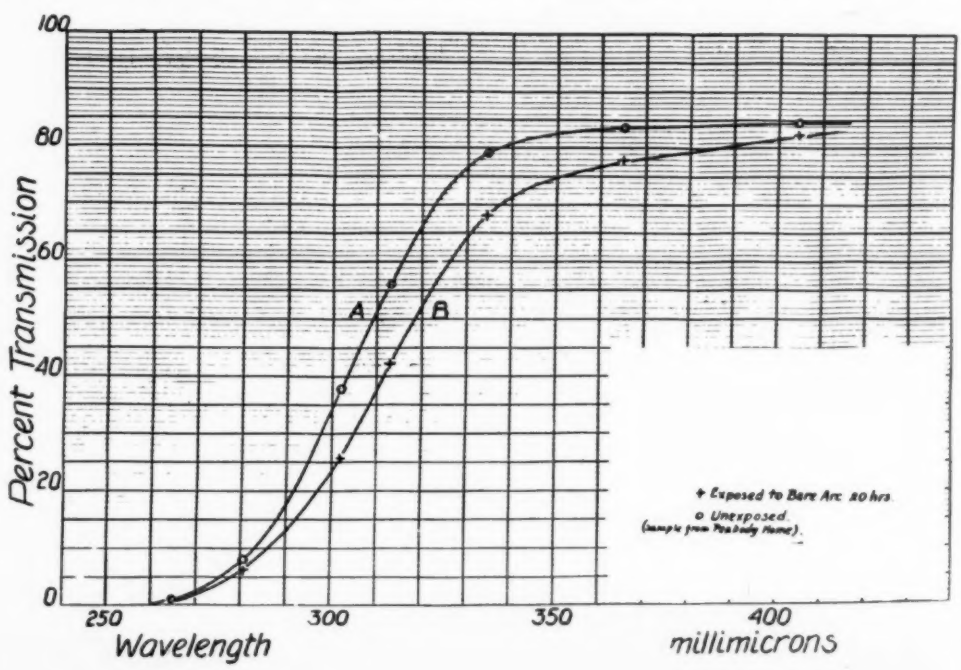


Fig. 3. Transmission curves of Glass No. 1 which had been solarized for one year. A, unexposed to arc. B, exposed to bare arc for 20 hours. Thickness, 2.4 mm.

the upper surface only. Similar exposures were given the Glass No. 1 specimens which had previously received radiation for about forty hours. In this instance there was a slight depreciation, indicating that the glass had not quite reached equilibrium, but far too small to account for any surface effects. The very fact that the glasses depreciated under the action of radiation to which they were transparent, was in itself sufficient to prove that the effect was not a surface one. Otherwise Glass No. 2 or Glass No. 1 would not have depreciated when protected from the short wave length radiations of the arc by coverings of Glass No. 2 or Glass No. 1, respectively. Furthermore, it would not be expected that the glasses would depreciate solely on the surface when exposed to sunlight which contains no radiation to which they are opaque. We have omitted the possibility of combined action of radiation and atmospheric gases, because that is not only improbable for obvious reasons, but it would undoubtedly lead to the usual loss of surface polish. Actually there is a color change throughout the glass, but no other visible alteration.

Referring to Figs. 1 and 2 which are self-explanatory, it is to be noted that the character and extent of the depreciation by mercury arc radiation were dependent upon the lower wave length limit of the spectrum. The depreciation was least when the covering was common glass and greatest when no covering was employed.

Experiments With Common Glass

Of the specimens of common glass, cut from a photographic plate, those which were exposed to the bare arc for 205 hours depreciated in transmission at 313 mu from 3.6 per cent to 2.9 per cent, a percentage change comparable with that observed in the case of Glass No. 2. A specimen of common glass exposed for 205 hours under common glass retained its original transmission.

To decide which of the three kinds of treatment was most nearly like true solarization, a pane of Glass No. 1, which according to record, had been in outdoor service for one year, and which should have been nearly completely solarized, was given about twenty hours of exposure to the mercury arc under common glass, under Glass No. 1 and with no cover. The areas were close together and were selected to eliminate striations and other imperfections. Fig. 3 shows the transmission of the solarized glass as received and after exposure to the bare arc. Only in the case of common glass covering was there no additional depreciation, for which it appears that both of the other test methods were too severe. It does not necessarily follow that the common glass was the best covering material. A glass transmitting to 300 mu might have yielded results more nearly comparable with true solarization. Furthermore, a carbon arc with its smaller gaps between spectral lines might prove to be superior to the mercury arc in this work.

The new Glass No. 1 with which we had to work was below average in quality. Before exposure to the arc it had about the same transmision characteristics as the solarized specimen.

Summarizing, several specimens of glass have been exposed to bare and filtered quartz mercury arc radiation and subsequently examined spectroradiometrically. The depreciation was rapid during the first twenty hours and was nearly complete at the end of forty hours. The action of the radiation completely penetrated the glass, producing a visible color change and no noticeable surface destruction. Bare arc radiation and that which had passed through glass similar to the specimens under test produced different kinds of depreciation.

*VITA GLASS—*accepted as necessary health equipment of the modern hospital*

In the job of making sick people well again, the up-to-date hospital employs every facility which research has proved beneficial to health. Among these appointments is now included Vita Glass.

Vita Glass is the new window glass that transmits the natural health-promoting ultra-violet rays found in the sunlight. Medical science has demonstrated that these rays have pronounced curative and tonic effect. By increasing the red corpuscles and the hemoglobin, they bring back strength and vitality to the convalescent patient. They stimulate appetite and aid the processes of nutrition and metabolism. They have been found useful in treating colds, pneumonia, and rickets, as well as certain forms of tuberculosis and skin disease. Yet ordinary window glass stops them completely.

As a health feature for hospitals, Vita Glass has, long ago, passed the experimental stage. Today it is being used by more than 100 of the leading hospitals and sanitaria in this country. These institutions find that windows of Vita Glass are particularly useful in hastening the period of convalescence. Vita Glass has also proved valuable in indoor heliotherapeutic treatments. Patients get the vital ultra-violet rays from the sun, as Nature intended they should.

Vita Glass can be used in your hospital wherever ordinary glass is now used. Whether you install it in your children's wards, your sunporches or throughout the entire building, it will return your investment in the increased health of your patients.

You may obtain the complete story of this amazing glass, its reasonable cost, together with the details of the remarkable results achieved through its use.

*Vita Glass

TRADE-MARK

*REG. U. S. PAT. OFF.

VITAGLASS CORPORATION,
50 E. 42nd St., New York

Please send me, without expense or obligation on my part, your literature on Vita Glass for hospital use.

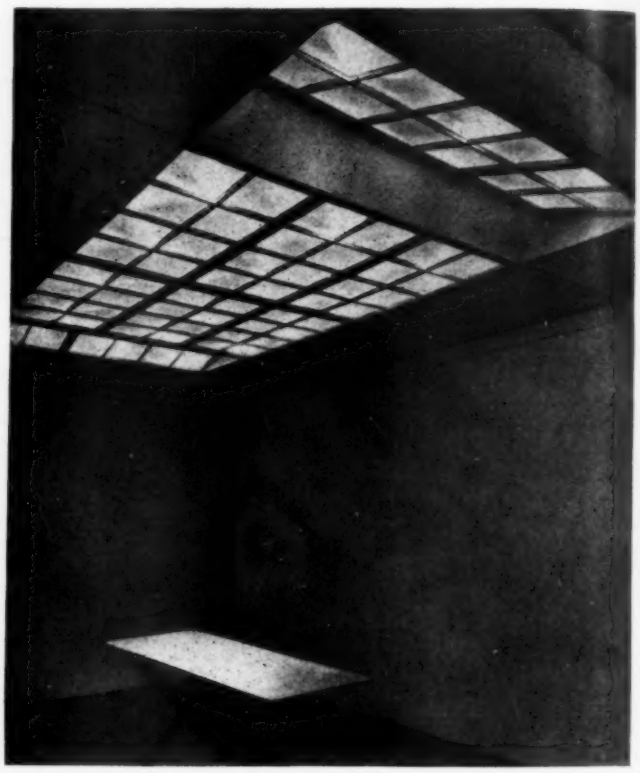
Name .....

Address .....

City..... State.....

New Unit Gives Concentrated Light on Operating Table

A multiple control lens system for use in lighting operating rooms has recently been perfected. This system consists in effect of one huge lens, approximately twelve feet long by six feet wide, made in sections, housed in steel framework with metal sides and top, and forming a complete self-contained enclosure. The light is completely wired and supplied with sockets and reflectors, and is capable of being installed, exposed, on the under side of a ceiling, or flush in a furred ceiling.



The manufacturers claim that this unit concentrates an intense spot of highly diffused light on the operating table, and distributes around the room an amount of illumination that makes the brightness of the room just a little less than the brightness of the operating cavity, so that the best visual conditions are obtained.

It is claimed that there is no glare and that these lighting conditions result in the maximum speed of vision and accuracy of work with complete comfort.

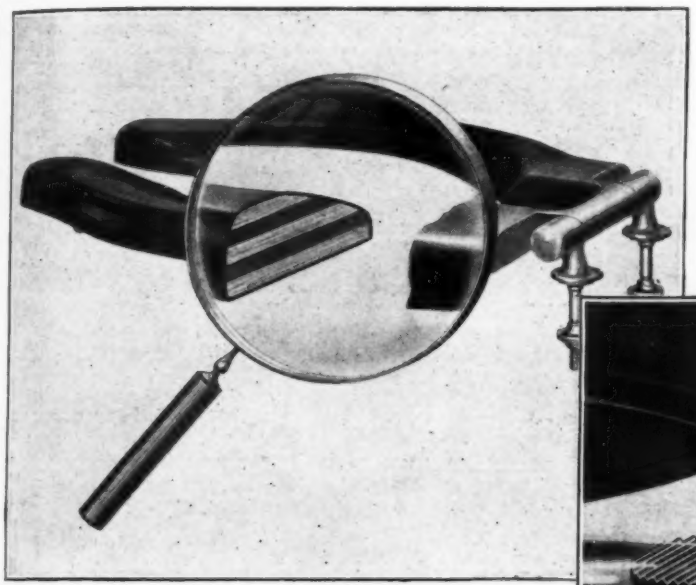
Standardizing the Arrangement of Drugs in Ward Lockers

By LOUIS SAMUELS
Pharmacist, Metropolitan Hospital, Welfare Island, New York

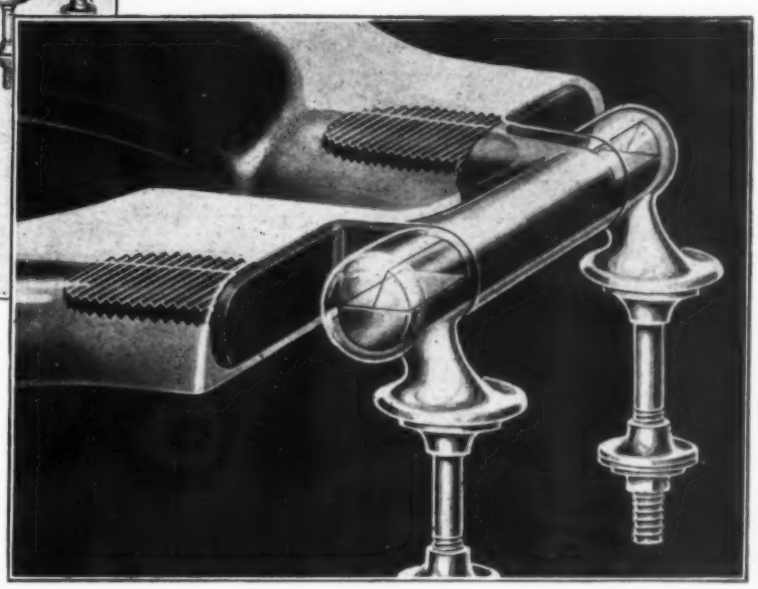
For some time I have given thought to the advisability of having the drugs in all lockers arranged in such a way that nurses sent from ward to ward, for even a short period, may be able to locate each medication in the same part of the locker in each ward.

This arrangement saves time and patience, unnecessary waste due to accumulation of drugs, and is more inter-

You Pay No More *to get these important features*



(1) **The new Whale-bone-ite Hinge.** Makes both seat and hinge one unbreakable, solidified unit, impervious to moisture, absolutely non-corrosive. No other closet seat offers you this hinge.



(2) **Whale-bone-ite's inner construction.** Laminated, alternating grain, hardwood core makes the Whale-bone-ite Seat proof against splitting, warping or cracking. Every Whale-bone-ite Seat is guaranteed for the life of the building.

A WHALE-BONE-ITE Seat costs no more than the cheapest composition closet seat. This is a fact every architect and building operator should know.

Why pay the same and miss out on the better construction, the exclusive improvements, that have made the Whale-bone-ite Seat known everywhere as the world's finest closet seat?

The Whale-bone-ite Seat is one piece . . . molded when soft into shape around a core of alternating-grain layers of hardwood. It has no cracks or joints to harbor germs. No thin veneered surface to wear through. Easy to clean, non-inflammable, its beautiful surface will last a lifetime.

The new Whale-bone-ite hinge on this famous closet seat is molded in one operation as an integral part of the seat. Reinforced by a metal, die-cast, one-piece insert, it is covered with highly-polished Whale-bone-ite having the same strength and finish as the surface of the seat. Any model of Whale-bone-ite Seat may be obtained with this new hinge.

When you select a closet seat, insist on getting the genuine Whale-bone-ite. Refuse imitations. Only a Whale-bone-ite Seat is "like Whale-bone-ite."

WHALE-BONE-ITE TOILET SEAT

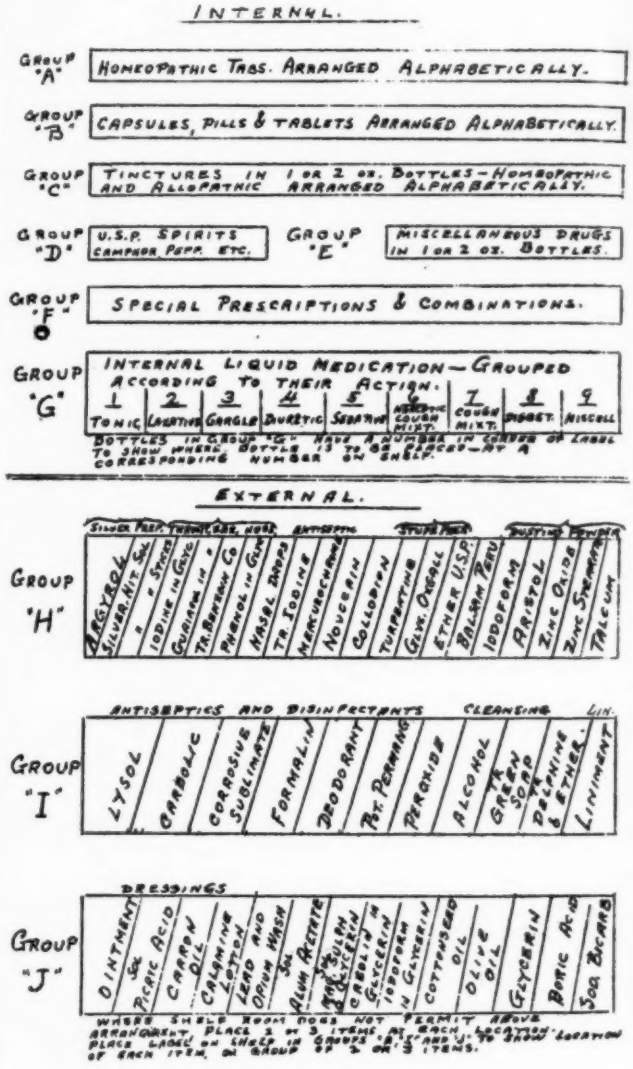
THE BRUNSWICK-BALKE-COLLENDER COMPANY · CHICAGO

Albany	Boston	Chicago	Dallas	Detroit	Kansas City	Minneapolis	Philadelphia	San Francisco	Tampa	Ottawa
Atlanta	Buffalo	Cincinnati	Denver	Harrisburg	Los Angeles	New Orleans	Pittsburgh	Seattle	Washington	Toronto
Birmingham	Charlotte	Cleveland	Des Moines	Houston	El Paso	New York	Richmond	St. Louis	Montreal	Havana

For free cross-section of a Whale-bone-ite Seat, address Dept. 266, Seat Division, The Brunswick-Balke-Collender Co., 623 South Wabash Avenue, Chicago

esting to student nurses as it is a practical aid in their study of materia medica.

It does not matter so much whether the items are arranged in any definite manner, as it does to have a definite place for each item, and to have that same place on every shelf. Once the arrangement is decided upon, according to the needs and methods of each institution, it requires little effort to maintain order. Even if things do get out of place occasionally it takes only a few moments to rearrange them. It is unnecessary to stop and



think where it would be best to place such and such an item. Every nurse, no matter how careful in keeping things in order, has a different idea where certain items ought to be placed. She might select a place where no one would even think of looking.

I realize that the drug lockers on each ward may not have the same construction, and also that the needs of the surgical, medical and pediatric wards vary. Most of the items are the same, and each item can be placed with others of like kind.

In the accompanying diagram I have tried to show a possible arrangement, which, although perhaps not perfect and adaptable to the needs of all hospitals, will at least give some idea of what can be accomplished, and the arrangement modified to conform with the needs of each institution.

Items in Groups A, B and C are arranged alphabeti-

cally, as the large number of drugs in these groups will not permit any other arrangement. Items in Group G have a subnumber, 1 to 9, placed in the corner of the label, to show where the bottle is to be placed, at a corresponding number on the shelf: 1. Tonics, 2. Laxatives, 3. Gargles, 4. Diuretics, 5. Sedatives, 6. Narcotic Cough Mixtures, 7. Cough Mixtures, 8. Digestives, 9. Miscellaneous. In Groups H, I and J, a little label on the shelf designates where the following preparations are to be placed: silver preparations, ear, nose, throat antiseptics, stupe preparations, dusting powders, antiseptics and disinfectants, cleansing liniment and dressing preparations.

Where shelf room does not allow this arrangement, two or three items can be placed together on each location on the shelf in a condensed form of this arrangement.

Equipping the Hospital*

SURGICAL INSTRUMENTS AND RUBBER GOODS

Amount	Item	Price Per		Total
1 set	Trocars assorted			3.75
1 set	Canelas assorted			3.00
4 pkgs.	100 ea. Skin Clips—			
	1 pkg. single .....$	1.50		
	2 pkg. medium	1.20		
	1 pkg. large	1.20		2.90
12	Probes 6 6″ long	2.20	doz.	2.85
	6 8″ long	3.50	doz.	
6	Grooved Directors 6″ long	3.60	doz.	1.80
1	Nasal Specula	2.25	each	2.25
8 2 sets	Ear	2.25	set	4.50
2	Metal Tongue Deprs.	13.20	doz.	2.20
2	Splinter Forceps 5½″ ..	1.00	each	2.00
2	Russian Tissue Forceps 6″	1.80	each	3.60
12	Thumb Tissue F'ceps 5½″	7.80	doz.	7.80
1	Liston's Bone Cutting Forceps 7″			4.75
1	Luers Bone Gouging Forceps 7″ curved			5.50
1	Ronbaix's Suture Forceps			1.75
1	Uterine Dressing Forceps			3.25
1	Braums Tenaculum Forceps 9½″	33.00	doz.	2.75
1	Vulsullums Tenaculum Forceps 9″	36.00	doz.	3.00
1	Wylies Uterine Dilator 12″			4.50
1	Protoscope Short 14 Centimeters			3.50
6	Stitch Scissors	18.00	doz.	9.00
1	Fergusons Abdominal Scissors			2.75
2	Allis Tissue Forceps	19.80	doz.	3.30
2	Metal Applicators (Gynaecological)	0.30	each	.60
1 set	(2) MayO-Collins Double End retractors	1.80	each	3.60
1	Only Richardsons Retractor	33.60	doz.	3.80
2	Metal Uterine Douche ..	3.00	each	6.00
2	Plaster of Paris Saws ..	2.40	each	4.80
1	Plaster of Paris Knife ..			1.50
1	Plaster of Paris Shears .			13.00
2	Mouth Gags	3.00	each	6.00
6	Backhans Tonsil Forceps.	13.20	doz.	6.60
2	Large Mioma Screws ...	1.50	each	3.00
1	Set Sounds (8)			10.50
2 only	Red Rubber Ear Syringes.	2.64	doz.	.44
2	Duodenal Tubes complete.	3.25	each	6.50
4	"Simplex" Tourniquets ..	12.96	doz.	4.32
2	Valentines Irrigating Tubes	14.40	doz.	2.40

*This list of equipment and the prices mentioned have been supplied to THE MODERN HOSPITAL through the courtesy of P. W. Behrens, superintendent, Williamsport Hospital, Williamsport, Pa. It is based upon an actual inventory made in November, 1927, and is considered applicable to a 100-150 bed hospital. This is the concluding installment of the list, the first and second installments having appeared in the May and July issues.

Amount	Item	Price	Total
4	Hot Water Bottles	$ 18.00 doz.	$ 6.00
1 only	Ice Cap	18.60 doz.	1.55
1	Electric Cautery		24.00
18 prs.	Rubber Gloves—		
	1 doz. No. 7½	8.40 only	8.40
	½ doz. No. 8	4.80 doz.	2.40
1	Kelly Pad	8.40 only	8.40
	Assorted Rubber Tubing		
	3 ft. No. 1 18″ Bore	.04 ft.	.12
	3 ft. No. 2 $\frac{3}{16}$″ Bore	.06 ft.	.18
	3 ft. No. 3 ¼″ Bore	.12 ft.	.36
	3 ft. No.11 $\frac{5}{16}$″ Bore	.17 ft.	.51
	10 lengths Carrel Dakin Tubing A. 72 len.		7.20
	Surgical Instruments		
4	Mosquito Forceps Halsteads	17.40 doz.	5.80
4	Straight Forceps Kelly Murphy	17.40 doz.	5.80
6	Curved Forceps Kelly Murphy	17.40 doz.	8.70
2	Bandage Scissors	15.00 doz.	2.50
24	Suture Needles Assorted.	1.50 doz.	3.00
1	Tonsil Sponge Holder	2.00 each	2.00
1	Tonsil Hemestat		3.50
3	Tongue Forceps	2.75 each	8.25
12	Hypodermoclysis Needles.	.50 each	6.00
4	Curettes	2.00 each	8.00
1	Combination Wound Clip and Forcep Remover		2.75
2	Graves Vaginal Specula		7.00
	1 small size	2.50	
	1 large size	4.50	
2	Sims Double Ended Vaginal Specula	1.80 each	3.60
1	Connels Airway 4½″		3.00
1	Bernque's Wire Mandrin.	7.20 doz.	.60
2	Large Needle Holders 8″.	3.25 each	6.50
1	Small Needle Holder	2.75 each	2.75
	Miscellaneous Equipment		
1	Large Cutting Knife (gauze)	2.25 each	2.25
2	Test Tube racks	1.00 each	2.00
1	Stethescope complete	4.00 each	4.00
1	Head Mirror	2.50 each	2.50
2	Throat Mirror	.75	1.50
1	Straight Razor	3.00	3.00
1	Safety Razor	5.00	5.00
1	Narcotic box and lock	1.00	1.00
1	Manometer		24.00
1	Aspirating Set complete	13.50	13.50
2	Stomach Tubes complete—		
	1 Adult Size	1.50 each	1.50
	1 Baby Size	1.75 each	1.75
1	Politzer's Air Bag	13.80 doz.	1.15
2 doz.	each 0-2-3 Plain Catgut.	28.80 gr.	14.40
1 doz.	0-1-2-3 Chromic Catgut	2.40 doz.	9.60
1 doz.	00-1-4 Plain Catgut	2.40 doz.	7.20
1	Bottle Silk Worm Steril.	.95	.95
1 doz.	Dermal Sutures	2.50	2.50
1	Ewalds Stomach Evacuator complete		5.00
1	Double Walled Paraffine Spray		12.00
2	Sponge Rectal Pipes—		
	1 adult size	.89 doz.	.07
	1 child's size	.72 doz.	.06
1	Tape Measure Steel	.90 only	.90
2	Metal Drainage Tubes	2.00 each	4.00
1	Floor Examining Lamp		6.00
1	Flash Light		2.50
2	White Pine Arm Boards 37″x7″	.25 each	.50
1	Adhesive Roller adjustable		9.00
4	Towel Racks	1.25 each	5.00
2	Soap Dispensers	1.50 each	3.00
2	Ether Masks	2.00 each	4.00
1	10 gal. Crock and Cover.		3.00
2 ea.	12F, 14F, 22F Catheters.	.23 each	1.38
4 ea.	16F, 18F Catheters	.23 each	1.84
2 ea.	Pezzers Self Retaining Catheters 16″, 18″	1.71 each	6.84

For complete index of advertisements refer to the Classified Directory

2 ea.	Malecotts Self Retaining 16", 18"	1.71	each	6.84
3 ea.	Female Catheters 7", 14" @	.20		.60
3 ea.	Silk Catheters Cylindrical Point, 16", 18" @	.70	each	2.10
3 ea.	Silk Catheters Mercier Conder Point, 16", 18" @	1.05	each	3.15
1	Phillips Whip End Catheter, 16", 18" @	2.25		2.25
3	Glass Catheters, female @	.06		.18
2	Glass Catheters Return flow	.70		1.40
3	Metal Catheter Prostate @	1.00	each	3.00
1	Simpson's graduated sound @	.90		.90
2	Rectal Tubes 28", 31" @.	.70		2.80
2	Kemp Return Flow Rectal Glass Tube @	1.00	each	2.00
1	Hypodermoclysis Tray, complete			2.30
1 set	Complete— 1 1000 c.c. glass cont'n'r Y connecting tube 2 needles			6.00
3 2 oz.	Wide Neck Glass Stopper Bottle	.25		.75
1	Infusion Thermometer			1.75
2	Hemostats	1.90		3.80
2	Round Basins	.72		1.44
1	Intravenous Tray complete			
1	Tray White Enamel			2.30
1 set	Complete— Tubing 1/1000 c.c. container 2 Needles			6.00
1	Scalpel			.95
2	Hemostats	1.90	per	3.80
1	Aneurzsin Needle			1.35
1	Needle Holder			2.50
1 pair	Scissors			1.00
1	Tube Catgut			.20
1	Grooved Director			.35
3	Suture Needles	.10	each	.30
2	2 oz. Wide Neck Glass Stopper Bottles	.25		.50
1	Tourniquet			1.00
	Syringes			
1	20 c.c. Syringe	2.35	each	2.35
2	10 c.c. Syringe	1.90	each	3.80
1	5 c.c.	1.65	each	1.65
2	2 c.c.	12.00	doz.	2.00
2	2 oz. "Cleaning" Aseptic Syringes, $14.25 doz.	1.19	each	2.38
	Glassware			
12	Medicine Glasses	.75	doz.	.75
3	Graduates ¼ oz.	6.60		1.65
	1/12 oz.	11.40	doz.	.95
	1/32 oz.	16.80		1.40
1	Bath Thermometer	4.00	each	.34
2	Clinical Thermometer .75 each	9.10		1.50
2	Rectal Thermometer .92 each	11.00		1.84
	Glass Connecting Pieces and Tubes Assorted			
6	Connecting Pieces, 2½x ⅜"	.54	doz.	.27
6	Irrigating Points, 4½" long	.65	doz.	.35
6	Nasal Tubes, 2½" long	.96	doz.	.49
6	Straight Vaginal Nozzles, 5"	1.08	doz.	.54
3	Glass "Y" Tubes, 1½"	2.40	doz.	20.60
3	Glass "L," 3½x2¾"	1.60	doz.	14.42
1	Complete Set Tubes for Carrel Dakin Outfit—			
1	Single Tube			.20
1	Double Tube			.30
1	Triple Tube			.40
1	Quadruple Tube			.50
2	Atomizers No. 16, 2 bottles			

"It is *economical* for us to use *Grain Alcohol* guaranteed made from grain only"

writes St. Anthony Hospital, Louisville, Ky.

Of course, your hospital prefers alcohol made from *grain*. But don't buy alcohol on mere faith. You may be getting ethyl alcohol made from molasses instead of true *grain* alcohol made from grain *only*. Buy Rossville Grain Alcohol with the grain guarantee on every container. No extra price for this superior guaranteed *grain* alcohol. Immediate small quantity deliveries from the warehouses listed below!

St. Anthony's Hospital
St. Anthony's Place
Louisville, Ky.

July 11,1928.

The Rossville Company,
Lawrenceburg, Indiana.

Gentlemen:

In our experience we have found that it is highly important that alcohol for all our hospital purposes be unchanging in its water-white color, its bland taste and pleasing odor.

Alcohol that turns yellow or develops unpleasant odor through long storage or exposure is undesirable and wasteful, because it is thrown out by hospital attaches as unfit for use. We have found that this does not occur with Rossville Grain Alcohol, which retains its clear, white color and fresh odor to the last drop, no matter how long it may stand exposed to the air or warm temperatures.

This permanence of quality, we understand, is paticularly characteristic of true grain alcohol. It is therefore economical for us to use Rossville Grain Alcohol, which is guaranteed made from grain only, for all our hospital requirements.

Yours respectfully,

St. Anthony's Hospital,
By Sisters of St. Francis

THE ROSSVILLE CO., Lawrenceburg, Ind.

Baltimore, Md.—McCormick Bldg., Light & Barre Sts.; Buffalo, N. Y.—Larkin Terminal Warehouse Co.; Chicago, Ill.—323 W. Polk St.; Cleveland, O.—1200 W. Ninth St.; Charlestown, Mass.— 10 Wiggins Terminal, 50 Terminal St.; Detroit, Mich.—1931 Howard St.; Lawrenceburg, Ind.—(Home Office); New Orleans, La.; Brooklyn, N. Y.—Bush Terminal Building; Philadelphia, Pa.—701-705 S. Front St.; Pittsburgh, Pa.—25th & Smallman Sts.; St. Louis, Mo.—St. Louis Terminal Warehouse, 419 S. 12th St.

Rossville

THE SPIRIT OF THE NATION

	Oil and Aqueous Solutions	1.60	each	3.20
1	Minum Glass	3.24		.27
2	Eye Cups, .05½	.66	doz.	.11
2	Large Glass Jars 12"	2.00	each	4.00
6	Drinking Tubes	2.70	gr.	.10
1	Flushing Bottle and Bulb	6.60	doz.	1.10
4	Glass Jars, 6", $2.50 each.	30.00	doz.	10.00
1	Fitted Hypodermic Jars..	2.75	each	2.75
2	Thermometer Solution Jars	5.70	doz.	
		.47½	each	.95
1	Hypo Tray, complete			1.00
1	Tray, 10x8			3.15
2	Med. Glasses, 1 oz.	.07		.14
1	2 c.c. Glass Syringe			1.00
2	Hypo Needles			.02
1	Camphor and Oil Needle.			.15
1	Glass Jar and Cover, 4x4.			.90
1	Fitted Hypodermic Jar...			2.75
1	Needle Dish, 3½x1¾			.32
1	4 oz. Glass Stopper Bottle			.50
	Total			$9.93
1 roll	First Grade Gauze			3.30
1 roll	Second Grade Gauze			2.45
6 rolls	Gauze Dressing (cut)	2.45		14.70
2 rolls	First Grade Cotton	.34	roll	.68
3 rolls	Second Grade Cotton	.19	roll	.52
1	Large Tube Borated Packing	.46	tube	.46
3	Large Tubes Iodoform Packing	.50	tube	1.50
5	Small Tubes Iodoform Packing	.40	tube	2.00
36	Rolled Sheet Wadding Bandages (5 yds.)	.06	each	1.80
6	Rolled Flannel Wadding Bandages	.08	each	.48
24	Rolled Unbleached Muslin, (5 yds.)	.05	each	1.20
1 roll	Adhesive Plaster			1.00
1 yd.	Moleskin Ad. Plaster			1.25
1000 bx.	Applicators			.50
500 bx.	Wood Tongue Depressors.			1.00
1 bx.	Chermi Percha Tissue, 4 yds. x 9"	1.50		1.50
1 yd.	Oiled Muslin			1.45
1 yd.	Pure Rubber Dam., Medium 7 oz.	2.00	yd.	2.00
6	Powder Dusters Aseptic, 1 oz. Metal	1.25	each	7.50
1	Iodoform Sprinkler	8.40	doz.	.70
	Linens			
18	Table Pad Cases	.40	each	7.20
18	Pillow Cases	21.75	doz.	4.13
24	White Muslin Curtains (for separating tables)	.30	each	7.20
50	Doctors' Hand Towels @.	.09	each	4.50
100	Surgical Towels, Blue and White Checked Linen..	.20	each	20.00
12 only	Patients' Gowns @	.68	each	8.16
4	Doctors' Gowns @	16.50	doz.	5.52
12	Utility Aprons (duck)	.48	each	5.76
12	T. Binders	.12	each	1.44
12	Straight Binders	.20	each	2.40
12	Regular Sheets	12.00	doz.	12.00
12	Scultitus Binders (outing)	.36	each	4.36
	Sundries			
12 bxs.	Safety Matches, .01½ each	90	gr.	.18
1 can	Dutch Cleanser			.04
2 cakes	Laundry Soap	.04½	each	.09
1 cake	Bon Ami	.05		.05
5 cakes	Toilet Soap	4.25	per gr.	.15
1 gr.	Small Safety Pins	.30	gr.	.30
1 gr.	Large Safety Pins	.40	gr.	.40
1 bx.	Straight Pins	.85		.85
2	Nail Nippers	3.00	each	6.00
2	Nail Files	.75	doz.	.13
2	Combs	.12	each	.24
	White Enamel Ware Supplies			
1	Bedpan	25.20	doz.	2.10

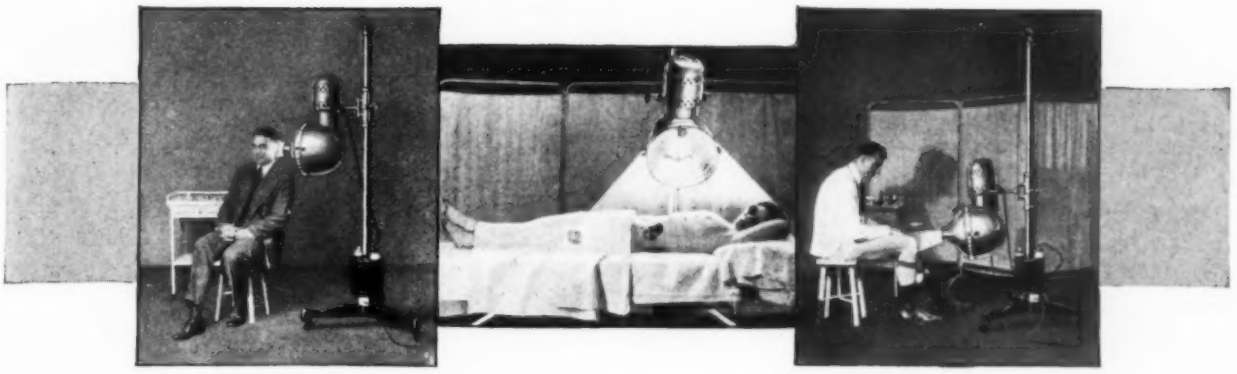
1	Urinal	19.80	doz.	1.65
3	Catheter bxs., 16¾x4x2".	2.38	each	7.14
	Funnels, 4 oz. ..	1.14	each	2.28
2	Sanitary Pails, 6 gal. ea.	5.50	each	11.00
2	Foot Tubs	4.00		8.00
1	Arm Bath			9.50
6	Dressing Jars and Covers	27.00	doz.	
		2.25	each	13.50
3	Dressing Trays, 19¾x 13½x¾	2.50	each	7.50
6	Large Ointment bxs.	6.60	doz.	3.30
6	Small Ointment bxs.	5.40	doz.	2.70
6	Soap Dishes, .36 each	4.32	doz.	2.16
4	Emesis Basins, 10x5x1¾.	.72	each	2.88
6	Large Dressing Basins	1.40	each	8.40
1	Graduated Irrigator, $1.14	25.65	doz.	1.14
4	Open Needle Boxes, .25 ea.	3.00	doz.	1.00
	Total Equipment			$1,533.71
	Medicine			35.25
	Total for both			$1,568.96

FURNITURE

Private Rooms		
1	Bed, Elevating Stems	$ 48.50
1	Bedside Table	13.00
2	Chairs	90.00
1	Dresser	35.00
1	Small Rug (washable)	6.00
1	Utility Rack in Toilet	5.35
1	Mattress and Pillows	15.00
	Total Each Room	$ 212.85
Ward Bed (Also Semi-Private)		
1	Bed Fowler	$ 28.50
1	Bedside Table	37.00
1	Chair (straight)	6.00
1	Mattress and Pillows	15.00
	Total Each Bed	$ 106.50
Reception Room (1)		
2	Settees	$ 108.00
2	Windsor Chairs (sides)	17.00
1	Table	50.00
2	Costumers	18.00
1	Umbrella Rack	13.50
2	Rugs	300.00
	Total	$ 506.50
Consulting Room (1)		
2	Settees	$ 108.00
2	Windsor Arm Chairs	27.50
1	Table	50.00
2	Costumers	18.00
1	Rug	150.00
	Total	$ 353.50
Solariums (6)		
6	Center Tables	$ 300.00
12	Settees	432.00
4	Chairs Windsor	34.00
	Total Each	$ 766.00
Nursery		
20	Bassinets	$ 189.00
20	Pads (cotton) for Bassinets	40.00
20	Pillows for Bassinets	20.00
	Total	$ 249.00
Summary		
64	Private Rooms @ $212.85	$13,622.40
24	Ward Beds @ $106.50	2,556.00
12	Semi-Private Beds @ $106.50	1,278.00
	Reception Room	506.50
	Consulting Room	353.50
6	Solariums @ $766	4,596.00
	Nursery	249.00
	Grand Total	$23,161.40

INVENTORIES (SUPPLIES)

Medical and Surgical Provisions, Printing and



Ultra-Violet Combined With Heat and Light Make Possible a Wide Range of Therapeutic Uses

CLINICAL evidence and the experience of well-known authorities has shown that the new Battle Creek Super Solar Arc Lamp may be successfully used to treat a wide range of the most stubborn and deep-seated disorders.

Not only does this ADVANCED-TYPE LAMP possess many improved mechanical features of construction, such as the automatic magnetic feed which prevents loss of time in waiting for the rays to attain adequate intensity, but the superiority of this lamp in the treatment of general constitutional conditions, as well as local surface conditions, is largely due to the combination of rays produced.

An ample amount of ultra-violet radiation plus the radiation infra-red, results in the production of a spectrum that most closely approaches that of the sun. Since the Super Solar Arc combines ultra-violet and infra-red rays it finds dozens of uses, for rachitic patients, for skin diseases, for relief of congestion, and other conditions. The technic of handling this lamp is easily and quickly mastered.

Our new bulletin describes fully the many mechanical and therapeutic advantages of the Super Solar Arc. May we send you a copy?

Sanitarium & Hospital Equipment Co.

Battle Creek Michigan

Other Battle Creek Therapeutic Appliances

Oscillo-Manipulator

This appliance, through years of development, has become a tested substitute for hand massage. It has proven of great value in practically all cases in which general or localized massage is indicated.

"Veelite" for Infra-red

This lamp radiates soft, penetrating rays of infra-red. Unique features are the new V-shaped element and ease of adjustment.

Vibratory Chair

A therapeutic unit of proven value for the application of vibration in the treatment of disease. The entire nervous and circulatory systems are reached by Vibratory Chair treatment.

Solar Arc Lamp R-40

A convenient, powerful and most efficient appliance for heat, light and ultra-violet therapy.

For complete index of advertisements refer to the Classified Directory

Stationery, Laundry, Laboratory, X-Ray Supplies	$ 8,000.00

MAIN KITCHEN

1 Kitchen Range	$ 600.00
1 Nickel Soup Kettle, 40 gal. Capacity, Trunnion Type Steam Jacketed	450.00
1 Steamer, 2 Compartments	450.00
1 Hobart Potato Peeler	220.00
1 Hobart Mixer	375.00
2 Coffee Urns	180.00
1 Gas Bake Oven	300.00
1 Freezer, 10 gal. (power)	250.00
2 Cook's Tables	140.00
1 Steam Table and Warming Oven	320.00
1 Milk Bottle Sterilizer	125.00
Miscellaneous Items	400.00
6 Tray Carts	750.00
1 Automatic Toaster	160.00
Total	$ 4,720.00

MAIN DIET KITCHEN

1 Gas Range	$ 200.00
1 Students' Cooking Table	240.00
1 Scales	75.00
Total	$ 515.00
Total for both	$ 5,235.00

LAUNDRY EQUIPMENT FOR A 100-BED HOSPITAL

Suggestion No. 1

One 36x36" Cascade Washer, Monel, motor drive, panel control, one pocket, one door.

One 36x54" Cascade Washer, Monel, motor drive, panel control, two pockets, two doors.

One 30" Underdriven Extractor, vertical motor drive, panel control. Special deep type. Equipped with No. 2 Automatic safety cover.

One 100" Two Roll Return Apron Flat Work Ironer, motor driven.

One 30x42" Junior Drying Tumbler, double motor driven reversing type, panel control.

One No. 38 Eagle Press, full automatic type, motor driven.

One No. 51 Eagle Press, full automatic type, motor driven.

One No. 1802 Self Contained Ironing Board, single suspension bracket, eight feet of cord and six pound electric iron.

One Panel Control Board for reversing and controlling the above two Washer, one Extractor and one Drying Tumbler.

Approximate cost for the above equipment is $13,250.00. This price is for the machinery delivered and set in the laundry room, ready for all connections.

Suggestion No. 2

One 36x36" Ideal Style "A" Wood Washer, belted motor driven, one pocket, one door.

One 40x64" Ideal Style "A" Wood Washer, belted motor driven, two pockets, two doors.

One 30" X Special Deep Underdriven Extractor, vertical motor driven. Equipped with No. 2 automatic safety cover.

One 100" Two Roll Return Apron Flat Work Ironer, motor driven.

One 30x42" Junior Drying Tumbler, belted motor driven reversing type.

One No. 38 Eagle Press, semi-automatic type, motor driven.

One No. 51 Eagle Press, semi-automatic type, motor driven.

One No. 1802 Self-Contained Ironing Board, single suspension bracket, eight feet of cord and 6 lb. electric iron.

Approximate cost of the above equipment is $8,960.00. This price is for the machinery delivered and set in the laundry room, ready for all connections.

Book Reviews and Current Hospital Literature

The Small General Hospital

Bulletin No. 3 published in book form under the auspices of the Duke Endowment, entitled "The Small General Hospital," deals with the planning and construction of small rural hospitals, and makes a decided contribution to the literature of the hospital field.

The report endeavors to cover in an elementary but understandable manner all phases of the development of a hospital program, including the evaluation of community needs, architectural problems and the operating needs of the completed hospital.

It contains plans and specifications that have been carefully worked out and admirably arranged.

There is incorporated in the report specific suggestions that are exceedingly valuable in the development of a program of this type.

The report gives evidence of intelligent study and vision, and is recommended in its entirety to anyone interested in the small hospital.

Hotel Planning and Outfitting

A Compilation of Authoritative Information on Problems of Hotel Economics, Architecture, Planning, Food Service, Engineering, Furnishing and General Outfitting, Including Numerous Illustrations, Plans and Tables of Data.[1] Price $10.

This is a compilation of authoritative information on problems of hotel planning, much of which is applicable to hospitals as well. The book has 438 pages and is profusely illustrated with plans of kitchens, laundries and other layouts, which would undoubtedly be of service to those building hospitals.

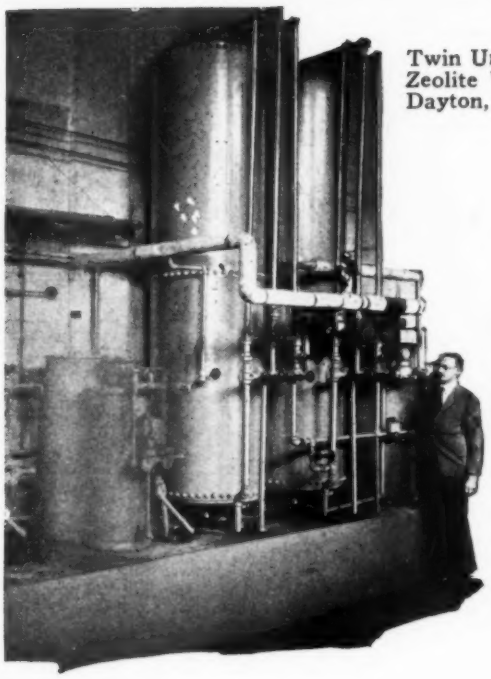
Interesting cost distribution is shown and the percentages and cost per cubic foot are given. The book contains a wealth of information both on the planning and on the furnishing of hotels.

Books Received

OPERATIVE SURGERY. By J. Shelton Horsley, M.D., F.A.C.S. Attending Surgeon, St. Elizabeth's Hospital, Richmond, Va. With 756 Original Illustrations. Illustrated by Helen Lorraine. Third Edition. The C. V. Mosby Company, St. Louis, 1928.

STANDARDS YEARBOOK, 1928. Compiled by The National Bureau of Standards. George K. Burgess, Director. Published by the United States Department of Commerce. Sold only by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.

[1] The Albert Pick-Barth Companies, Chicago and New York.



Twin Unit Paige-Jones Upflow Zeolite Water Softener in the Dayton, Ohio, Y. W. C. A.

VISIT BOOTH 93
A. H. A. Convention

A model of 100,000 gallon twin unit Paige-Jones Upflow Zeolite Water Softener will be on exhibition in Booth 93 at the A.H.A. Convention.

Softened water
Helps the Treasury

PERHAPS the most desirable feature of zeolite softened water in hospitals is that the savings release funds for other purposes.

Savings result in the boiler room, in the laundry, in the piping systems because the zeolite softened water is non-scale, non-curd forming water.

Zeolite water by means of the Paige-Jones Upflow Softener is low cost water. Low cost because several of the usual operations are curtailed and one—backwashing—eliminated.

A Paige-Jones representative will be glad to make a study of your water supply and recommend the proper upflow zeolite unit. Write or call our nearest office.

PAIGE & JONES CHEMICAL CO., Inc.

Licensee Under Gans (Permutit) Patent No. 1,195,923
General Sales Office, Technical Dept. and Works: Hammond, Ind.
Executive Offices: 461 Fourth Ave., New York—Offices in Principal Cities

PAIGE-JONES WATER SOFTENING

ZEOLITE AND LIME SODA SOFTENERS
PRESSURE SAND FILTERS
BOILER FEED WATER TREATMENTS

Paige-Jones Representatives or Agencies Are in the Following Cities

AKRON OHIO
ATLANTA GEORGIA
BALTIMORE MARYLAND
BENTON HARBOR MICHIGAN
BUTTE MONTANA
CEDAR RAPIDS IOWA
CHICAGO ILLINOIS
CLEVELAND OHIO
DALLAS TEXAS
DAYTON OHIO
DENVER COLORADO
DETROIT MICHIGAN
FORT WAYNE INDIANA
HOLLIS OKLAHOMA
INDEPENDENCE KANSAS
INDIANAPOLIS INDIANA
KANSAS CITY MISSOURI
LINCOLN NEBRASKA
LOS ANGELES CALIFORNIA
LOUISVILLE KENTUCKY
MINNEAPOLIS MINNESOTA
NEW YORK N. Y.
PHILADELPHIA PENNSYLVANIA
PITTSBURGH PENNSYLVANIA
READING PENNSYLVANIA
SAN ANTONIO TEXAS
SAN FRANCISCO CALIFORNIA
TAMPA FLORIDA
TULSA OKLAHOMA

NEWS OF THE HOSPITALS

Alabama

The new Hillman Hospital, Birmingham, Ala., is expected to be completed within a few weeks. The building which will represent an expenditure of about $500,000 without equipment, will accommodate 382 patients.

Arizona

After a thorough investigation of the research field, a $100,000 research institute has been started as an addition to the Desert Sanatorium of Southern Arizona, Tucson. Dr. Daniel T. MacDougal, internationally noted for his research work, will be in charge of the institute. Many great scientists have been engaged to carry on experiments in the new building.

California

An immense building program has been adopted by the county board of supervisors in Pasadena for the construction of a new $10,000,000 county hospital. The building will progress in five definite steps, and is expected to be entirely completed in 1933. The structural steel work for the first unit is already completed and work is to be resumed at once on this building.

Under construction at the present time in Los Angeles, is the Los Angeles General Hospital, which, when completed, will cost about $8,000,000, and will be the largest and most completely equipped hospital in the west. The building will be about sixteen stories in height, having accommodations for 1,600 beds, and providing nearly thirty acres of floor space.

Illinois

Exercises for the laying of the cornerstone of the new Women's and Children's Hospital, Chicago, were held on June 14.

Maryland

The Colonial Hospital, Baltimore, which, during the World War was called the Morrow Hospital, has been closed, and the buildings will be sold.

A new wing to the Melrose Hospital, Melrose, is made possible through a gift of $125,000 from Mr. and Mrs. Alfred H. Colby, Melrose, according to an announcement by Ashton L. Carr, president of the institution. Several stipulations were made, one, providing that the new addition conform in size and architecture to the old one; another, that the new wing have facilities for treating thirty-two patients; and another, that the board of trustees provide any funds over $125,000 that may be needed to complete the building.

Minnesota

The men's building of the Onigum Chippewa Sanatorium for Indians, Onigum, was completely destroyed by fire recently.

Mississippi

The Pearl River County Hospital, Poplarville, is reported to have been completely destroyed by a fire which resulted from a boiler explosion. No casualties were reported. The hospital had a capacity for eighteen patients and all were removed before the fire gained enough headway to hinder the rescue work.

Missouri

A new addition which is to be built at the Missouri Baptist Sanatarium, St. Louis, which is noted for its work in aiding crippled children, will cost about $300,000. The capacity of the hospital has been so heavily taxed during the past few years that more space is essential if the work is to be carried on efficiently. Completion of the new wing will add 100 beds to the present capacity of the institution. The operating room will be of the type most modern in the country. Plans are also being made to provide a solarium and roof garden where the children may play in the sunlight and receive the benefit of Nature's healing powers.

The Brandon Hospital, Poplar Bluff, has recently been opened. It is a three-story structure, costing about $100,000 and has a capacity of forty beds. The equipment and facilities of the institution rival those usually found in a 500-bed hospital. Dr. W. L. Brandon is in charge of the institution.

The new $300,000 nurses' home of St. John's Hospital, St. Louis, has recently been opened. The building was constructed to accommodate 200 nurses, and each room has a private bath.

New Jersey

Ground was broken recently at Lake Hopatcong, near Paterson, for the construction of the new $1,000,000 Deborah Tuberculosis Sanatorium, formerly located at Brown's Mills Sanatorium, a non-sectarian institution of the Deborah Jewish Consumptive Society. The plans for the building provide accommodations for 200 patients.

The Mary Austen Hall, nurses' dormitory of the Orange Memorial Hospital, Newark, is well on the way toward completion. The building, a memorial to Mrs. Edward Austen, first president of the hospital, is the first unit of a $2,000,000 building program. It is planned to accommodate 124 instructors and student nurses, and will have a library, offices, laboratory, demonstration and study rooms.

Dedication of the nurses' home of the Holy Name Hospital, Teaneck, took place recently.

New York

A new $1,000,000 Hospital is under construction in Albany. The Rt. Rev. Edmund F. Gibbons officiated at the ground breaking ceremonies. It is expected that the building will be ready for use by next winter. Among the modern facilities in the seven-story building will be a bakery, in which all the bread and pastries will be made, a solarium, for children and large operating rooms, two stories in height. The latter will be provided with galleries for clinical purposes.

The Jewish Mental Health Society, Hastings, has opened the Hillside Hospital for treatment of patients suffering from curable mental ills. The building which was formerly a private residence has been equipped to care for twenty-five patients.

The women's chronic building of the Kings County Hospital, Brooklyn, has been condemned by the fire department as a fire hazard. This action has necessitated

the removing of 260 of the inmates pending further action by the hospital board. It is planned to destroy the old building completely, and to use as temporary quarters a new men's building.

The Charity Organization Society and the Welfare Council of New York, along with a number of other groups of social agencies, have compiled a consolidation directory of social agencies for New York City. In this directory appear the names of 1,161 clinics. In addition to the clinics are listed 439 organizations engaged in family welfare, 380 in child welfare, and 367 agencies, as well as 1,474 churches under the council's classification of recreation, education and neighborhood activities.

The committee of the whole of the board of estimates, New York City, has recently authorized a corporate stock program of $65,000,000, of which more than $10,000,000 will be spent on hospital buildings and improvements. The hospitals benefiting by the measure, and the amounts of their allotment are: Kings County, $5,000,000; Bellevue, $1,500,000; Harlem, $1,700,000 and Lincoln, $900,000. Other hospitals to which generous sums were given are Governeur, Greenpoint, City, Riverside and Kingston Avenue.

North Carolina

Salem will have its first strictly charitable hospital when the Junior League Hospital for Incurables, on which work was recently started, is completed. The buildings will represent a financial outlay of $60,000.

North Dakota

The Reimche Memorial Hospital, Harvey, has recently opened a new addition.

Ohio

An impressive ceremony featured the cornerstone laying of the new Fort Hamilton Hospital, Hamilton. Following a parade which brought several thousand people to the site of the new institution, Dr. A. C. Bachmeyer, superintendent, Cincinnati General Hospital, Cincinnati, was called on to speak on the advances of hospital construction in the last ten years.

A two-story hospital building, to cost about $60,000 is under construction at Dennison University, Granville.

A new municipal hospital has recently been opened in Bedford. Many physicians from near-by towns are members of the staff.

The Willard Community Hospital, Willard, was recently destroyed by fire. A number of patients were safely removed from the blazing building and taken to a private residence. A new fireproof hospital is being planned.

Sixty beds were added to the capacity of the Mercy Hospital, Hamilton, with the opening of the new $250,000 addition. The hospital can now accommodate 200 patients.

The Shuffell Little Flower Hospital, Canton, a gift of Dr. H. M. Shuffell, was recently opened. It will be operated by the Sisters of Charity of St. Augustine.

The will of the late Mrs. Noah H. Swayne, Toledo, Ohio, provides for a bequest of three-eighths of her $250,000 estate to the St. Luke's Hospital, St. Louis, after a number of individual bequests are made.

Oklahoma

An addition is under construction for the Rolater Hospital, Oklahoma City. The new unit will increase the capacity of the hospital from fifty-four to ninety beds and will cost $40,000.

It is only a matter of a few weeks before the new state hospital for crippled children which has cost ap-

proximately $300,000, will be completed. The building which is being constructed adjacent to the site of the University Hospital, Oklahoma City, will have a capacity of 200 beds. Facilities have been provided for hydrotherapy and heliotherapy treatments, and for carrying on the school work of those patients who are of school age.

Pennsylvania

The expenditure of $300,000 at the present time is part of a ten-year plan whereby the bed capacity of the Harrisburg State Hospital, Harrisburg, will be increased from 1120 to 2000, and other needed changes will be made. The hospital has been so heavily taxed that as many as 300 more patients have been handled at one time than the hospital is actually equipped to care for. Quarters for employees, nurses and staff members are badly needed and among the other buildings to be built are a laundry, a clinico-pathological building, a cold storage plant, a gymnasium, a garage, an industrial building and a new power plant.

Construction is well under way on the new $1,200,000 hospital at York. The new institution when completed will accommodate 170 patients. The main building is to be six stories in height, and there will be two wings, each two stories high. The roofs of the wings will be used as solariums. There will be a five-story nurses' home, with rooms for seventy-eight nurses. The buildings will be equipped for research and study, as well as for the care of the sick. All except $100,000 of the total amount needed was pledged in the recent campaign.

Plans have been made for the construction in Pittsburgh of a 600-bed general hospital, a 200-bed children's hospital, a 100-bed eye and ear hospital, with adjoining nurses' home and training school, a free dispensary, a medical library and quarters for the Red Cross and public health nurses. So far the children's hospital is the only one completed. A gift of $750,000 toward the building fund was recently made and it is expected that work on the general hospital will start in the near future.

A new $500,000 addition to the Hospital of the University of Pennsylvania, Philadelphia, has been planned. The building will be used for laboratory work.

South Carolina

Construction on the new St. Mary's Hospital, Anderson, has recently been started. When completed, it will be a twenty-four bed hospital with all private or semiprivate rooms. For the sake of convenience, the building is to be one story in height. Dr. C. S. Breedin, who will be the superintendent, states that the cost will be about $25,000.

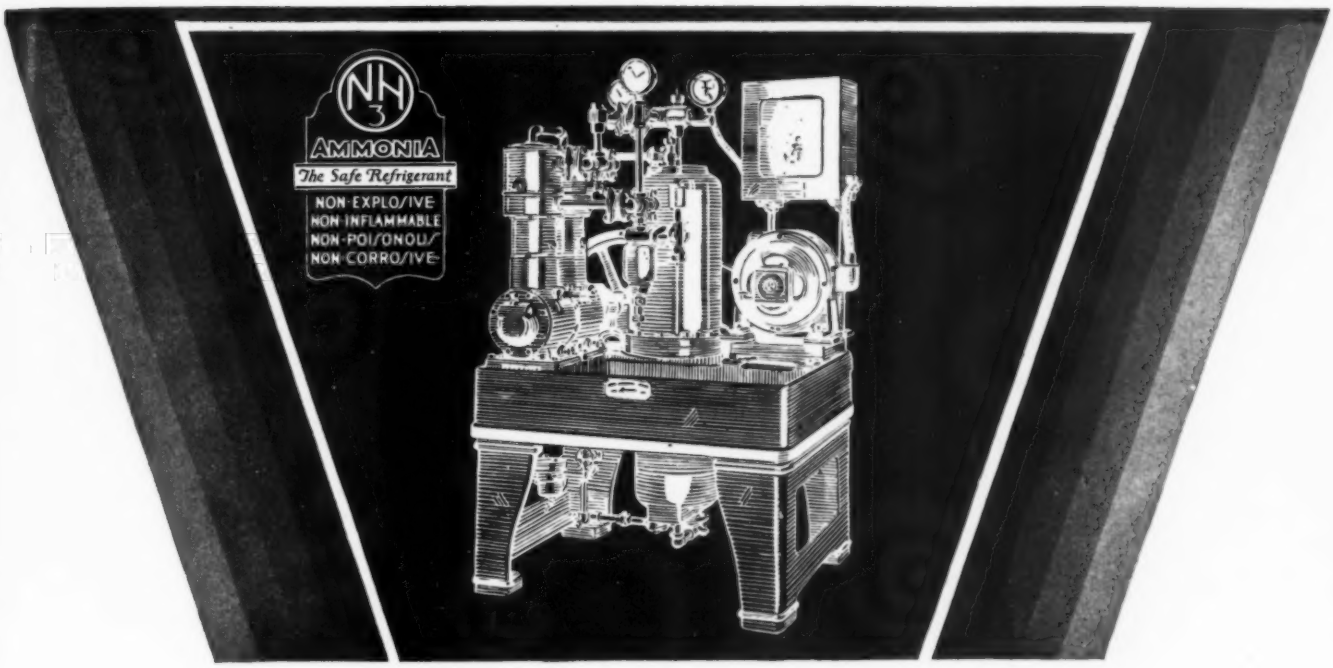
South Dakota

Work will soon be started on a new municipal hospital at Britton. The building will be three stories in height and of semifireproof construction.

Tennessee

Excavation for the new $120,000 Children's Hospital, Chattanooga, has been completed, and the concrete foundation covering approximately 9,000 square feet has been laid. The completion of the building is expected next winter.

The construction of the first unit of what will be the Memphis Hospital for Crippled Adults, Memphis, was made possible through a gift of $200,000 from B. B. Jones, Washington, D. C. The ground on which the structure is being built was donated by the women's board of the Memphis Hospital for Crippled Children.



DEPENDABLE

WHEN you buy an ambulance, an automatic water heater, or a sterilizer, you insist that it be dependable. To require the same quality in a mechanical refrigerating unit is just as logical. For when a refrigerating unit is dependable, it means long years of trouble-free performance. And when it's a Lipman, it also means low operating cost and low upkeep.

That Lipman Full Automatic equipment delivers dependable, low-cost refrigeration day after day, and year after year—is legend with the thousands of Lipman owners all over the country.

The sheer merit of Lipman performance is making this dependable equipment the first choice of those who know. But learn the facts for yourself. Talk to any Lipman owner, or send for free copy of "The ABC's of Electrical Refrigeration" today.

The dry constant cold of the mountain top

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Please send my FREE copy of the "ABC's"

My Name .....

Superintendent .....

Hospital .....

Street .....

City and State .....

Dr. George R. McSwain, owner of the McSwain Hospital, Paris, is building another hospital, which, when finished, will have accommodation for fifteen patients, two operating rooms and complete x-ray equipment.

Texas

A new hospital costing about $100,000 is to be built for the Prairie View Normal and Industrial College, Prairie View.

A new ward building for the Wichita Falls State Hospital, Wichita Falls, is to be built this summer. The building will cost about $125,000.

Work has been started on the new $85,000 Rusk State Hospital, Rusk.

Utah

Construction has recently been started on a new addition to the Latter Day Saints Children's Hospital, Salt Lake City, which, it is estimated, will cost around $450,000. The building will be a reinforced concrete and brick structure. Completion of the building will raise the capacity of the hospital to 140 beds.

Ground has been broken for the construction of the new St. Mark's Hospital, Salt Lake City. The cost of the building will probably reach $1,000,000.

Virginia

An eleven-story building is to be constructed to replace the old Hygeia Hospital, Richmond. It will have a capacity of 125 beds, as well as office suites for twenty-five physicians and will cost approximately $300,000.

Pending the realization of plans for the construction of a new fifty-bed hospital, the Hopewell Chamber of Commerce is going to recondition the old Hopewell Hospital for temporary use. The old building was taken over by physicians of that city on April 1.

West Virginia

Sistersville is to have a new hospital, work on which will be started in the near future. Contracts for the construction of the new Sistersville General Hospital were recently let to an Ohio firm.

Washington

The St. Lukes Hospital, Spokane, is to have a new $90,000 nurses' home. The home is being planned to accommodate 110 nurses.

Wisconsin

A new hospital will be opened in Sturgeon Bay. It is housed in the old post office building, a three story structure, which has been entirely remodeled and renovated.

Foreign

Construction has been started on an undenominational hospital in Johannesburg, South Africa, which, when finished, will stand as a memorial to Dr. Frederick Bridgman, an American missionary. Dr. Bridgman started raising funds for the hospital in 1925, when he was in the United States on a furlough. After his death the work was carried on by Mrs. Bridgman, and finally enough money was raised to assure the completion of the building.

A new maternity hospital is being planned as an addition to the Kapiolani Maternity hospital, Honolulu. The building will be three stories in height, of concrete structure, modern in every respect and will accommodate fifty patients. Mrs. J. Frank Woods, Princess Elizabeth of Hawaii, is president. It is estimated that the cost of the building and site will reach $100,000.